**University of Alberta**

# Aristotle on Modality and Determinism

by

Christos Yiangou Panayides ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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# ABSTRACT

There are four texts in the *corpus*, *Metaphysics* Ε. 3, Θ. 3, *De Interpretatione* 9, and *De Caelo* Α. 12, where Aristotle deals with the related issues of modality and determinism. In this thesis I do two things. First, I provide new interpretations for these texts which resolve the many persistent difficulties that seem to riddle them. And second, I show that contrary to what most modern interpreters think these four texts are intricately connected to each other.

**University of Alberta**

**Faculty of Graduate Studies and Research**

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *Aristotle on Modality and Determinism* submitted by Christos Yiangou Panayides in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Martin M. Tweedale
Dr. Martin Tweedale
Supervisor

Richard Bosley
Dr. Richard Bosley

Bernard
Dr. Bernard Linsky

Christopher Mack
Dr. Christopher MacKay
k

Dr. Aryeh Kosman
External Examiner

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# List of Abbreviations

*APo.* = *Posterior Analytics*

*APr.* = *Prior Analytics*

**AR** = The Anti-Realist Interpretation (of *DI*. 9)

**C** = The Commentators' Interpretation (of *DI*. 9)

*Cat.* = *Categories*

*DA* = *De Anima*

*DI.* = *De Interpretatione*

*DC* = *De Caelo*

**FCA** = Future Contingent Antiphasis

**FCS** = Future Contingent Statement

*GC* = *De Generatione et Corruptione*

***LEM*** = The Law of Excluded Middle

*Met.* = *Metaphysics*

***PB*** = The Principle of Bivalence

***PC*** = The Principle of Contradiction

*Phys.* = *Physics*

***RCP*** = The Rule of Contradictory Pairs

*Rhet.* = *Rhetoric*

**R** = The Realist Interpretation (of *DI*. 9)

**S** = The Statistical Interpretation (of *DI*. 9)

# *Introduction*

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The consensus among modern scholars is that Aristotle is no stranger to the debate over what we now call 'determinism' or 'necessitarianism'; namely, the thesis that *whatever happens has all along been necessary, that is, fixed or inevitable*.[1] To be more specific, it seems that the interpreters are in agreement about the following:

> (1) It is clear that in *Metaphysics* (*Met.*) E. 3 and *De Interpretatione* (*DI.*) 9, the Stagirite's efforts are directed towards refuting arguments for two different forms of necessitarianism.[2]
> (2) In *Met.* Θ. 3 we get a discussion which is essentially an attempt to rebut yet another argument for necessitarianism.[3]
> (3) *De Caelo* (*DC*) Α. 12 contains material which is inextricably connected to Aristotle's drive to silence his necessitarian opponents.[4]

As is usually the case with Aristotle scholarship, however, what divides the interpreters is the reconstruction of these texts.

Let us begin with *Met.* Θ. 3, where Aristotle appears to be concerned with the question of whether a man's fate, *viz.* whether he will die by disease or violence, is now (causally) determined.[5] To the best of my knowledge, there are no dissenting voices to the claim that Aristotle's quarrel here is with an opponent who advocates some form of causal determinism; *viz.* a version of necessitarianism based on causal considerations. In fact, there are numerous pieces in the recent literature which purport to do two things: (a) reconstruct the causal determinist's argument as this is described in *Met*. 1027a32*ff*, and (b) show us how Aristotle responds to this argument.[6] What seems to pose a problem for these interpretations, though, are the first few lines of *Met*. E. 3.. In *Met*. 1027a27-32, the Stagirite states that:

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[1] In this project I intend to use the terms 'determinism' and 'necessitarianism' interchangeably.
[2] See, for example, Gaskin, 1995, and Sorabji, 1980.
[3] See Aquinas, 1961: 663-669, and Williams, 1986: 183.
[4] See, for example, Hintikka, 1973: esp. ch. 5, van Rijen, 1989: ch. 5, and Waterlow, 1982: ch. 4.
[5] See *Met.* 1027a32*ff*.

> ὅτι δ᾽ εἰσὶν ἀρχαὶ καὶ αἴτια γεννητὰ καὶ φθαρτὰ ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι, φανερόν. εἰ γὰρ μὴ τοῦτ᾽, ἐξ ἀνάγκης πάντ᾽ ἔσται, εἰ τοῦ γιγνομένου καὶ φθειρομένου μὴ κατὰ συμβεβηκὸς αἴτιον τι ἀνάγκη εἶναι.

The translation and interpretation of this short passage is a notoriously messy affair.[7] Nevertheless, it seems clear that the claim Aristotle is trying to make is something along these lines: either we have to accept the existence of a certain kind of causes, *viz*. αἴτια γεννητὰ καὶ φθαρτὰ, or else we have to grant that everything will be of necessity (ἐξ ἀνάγκης πάντ᾽ ἔσται). That is to say, we either have to accept the existence of a certain kind of causes, or else the (causal) determinist can have his way with the future. There is no doubt that the material in *Met*. 1027a29-32 is an integral part of the discussion in the rest of the chapter, where Aristotle spells out and then refutes his (causal) determinist opponent's position. As one of the authorities on *Met*. E. 3 has recently argued, however, the interpreters have yet to provide us with a satisfactory reading of *Met*. 1027a29-32. Hence, it is not surprising to see that he concludes that *Met*. E. 3 as a whole has 'yet to receive a satisfactory interpretation' (Kirwan, 1993: 196, 222).

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[6] See, for example, Gaskin, 1995: ch. 14, Sorabji, 1980: ch. 1, and Williams, 1986.

[7] See Kirwan, 1993: 195-198, 222-225.

*DI*. 9, the text where we get the famous future sea battle argument, needs no introductions -- even for those who are adversely predisposed to the study of the history of philosophy. It is now common knowledge that in *DI*. 9 Aristotle attempts to rebut an argument for logical fatalism. In particular, it appears that the Stagirite's opponent in this text argues the following: the truth of a statement '*Fp*', where this is a statement bearing on the future, entails that there is nothing one can do to affect the obtaining or otherwise of the relevant state of affairs.[8] This much, however, is all the interpreters seem to agree on. There is no agreement whatsoever as to what *exactly* is the structure of the fatalist's argument, or as to how Aristotle rebuts this form of necessitarianism.[9]

The third piece of text, *Met*. Θ. 3, is bit of an oddity. In it, Aristotle argues against a thesis, ascribed to the Megarians, which has it that '*x* has the capacity to φ, if and only if *x* is actually φ-ing'.[10] *Met*. Θ. 3 is often cited in discussions pertaining to the treatment of necessitarianism by Aristotle. There are also many interpreters who openly claim that this is yet another text where the Stagirite tries to answer a necessitarian opponent.[11] And presumably, this time around the thinkers Aristotle is trying to answer are the early Megarians. The problem, though, is that there is nothing in the existing literature which explains: (a) how the Megarian thesis is connected to determinism, and (b) what is Aristotle's response to this putatively necessitarian thesis.

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[8] See, for example, Gaskin, 1995: esp. part I, and Sorabji, 1980: chs 5-8.

[9] For a sense of the chaotic state of the literature on this debate, see Gaskin, 1995: chs 2-7, 12.

[10] See *Met*. 1046b29-32.

[11] See fn. 3.

In the fourth text on our list, *DC* A. 12, Aristotle presents an argument which purports to show that '... everything that always is, is ... indestructible' (*DC* 281b25). As is well known, this argument has acquired notoriety due to the work of J. Hintikka. According to Hintikka, there is textual evidence which indicates that Aristotle espouses the *Principle of Plenitude* = 'If something is possible at a time $t_i$, then it is actual at $t_j$ for at least one time $t_j \geq t_i$'. Furthermore, Hintikka argues that if this much is right then it is not hard to show that the Stagirite is also committed to some form of determinism.[12] Nowadays, it is accepted that Aristotle explicitly states that: (a) the *Principle of Plenitude* is applicable to things everlasting, e.g. the individuals in the realm of the heavenly bodies, and (b) the realm of things everlasting is indeed governed by determinism. At the same time, though, it is widely accepted that the Stagirite firmly asserts that the *Principle of Plenitude* does *not* apply to the individuals in the sublunary realm, where indeterminism reigns supreme.[13] Although this debate seems to be now settled in favour of Hintikka's opponents, there are some lingering doubts arising out of *DC* A. 12. Hintikka's claim is that in *DC* A. 12 (281a28-b25) Aristotle gives us a straightforward argument for a variant of the *Principle of Plenitude*, namely, the thesis that 'what always is, is by necessity'.[14] And what seems to divide the recent interpreters is the question of whether or not this argument undermines Aristotle's efforts to preserve indeterminism in some parts of the cosmos.[15]

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[12] See Hintikka, 1973: esp. ch. 5. For his exposition of the argument that the *Principle of Plenitude* entails determinism, see Hintikka, 1977: esp. pp. 32*ff*.

[13] See, for example, Gaskin, 1995: ch. 7, and Sorabji, 1980: ch. 8.

[14] See Hintikka, 1973: esp. pp. 96-105.

The purpose of this project, in the first instance, is to resolve the persistent interpretive difficulties outlined above. To be more specific, what I propose to do is this. In chapter 1, I will present what I take to be the exegetically correct reading of *Met.* 1027a29-32, and I will explain how it can help us obtain a complete and consistent interpretation of *Met.* E. 3 as a whole. In chapter 2, I will argue that the task of making sense of the material in *DI*. 9 is not as difficult as has been repeatedly suggested by the modern interpreters. I will show that if we restore *DI*. 9 to its rightful place as part of the discussion of contradiction initiated in *DI*. 6, then we can readily resolve the two standing problems with this text. First, we can see what the structure of the fatalist's argument is: And second, we can see what is the nature of Aristotle's response to his fatalist opponent. In chapter 3, I will give a discussion which aspires to show: (a) how the Megarian thesis is connected to necessitarianism, and (b) what is Aristotle's answer to this form of necessitarianism. Finally, in chapter 4 I will argue that there is good reason to think that the material in *DC* A. 12 spells trouble for the Stagirite's drive to make a case for indeterminism.

What will emerge from the discussion in chapters 1-3 is a picture of Aristotle as a thinker who is firmly committed to some form of indeterminism in the natural world. As for chapter 4, it will show that the Stagirite is committed, albeit inadvertently, to an argument which seems to pose some difficulties for his work in *Met.* Ε. 3, Θ. 3, and *DI.* 9.

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[15] For one version of this debate, see Sorabji, 1980: 129-130, and Gaskin, 1995: 60-61.

To complete the discussion in this project, I will attempt to do something which I believe has yet to be done. As was already noted, our texts, *viz. Met.* Ε. 3, Θ. 3, *DI.* 9, and *DC.* Α. 12, form the core of Aristotle's treatment of the related issues of determinism and modality. The problem, however, is that the modern interpreters treat these texts as if they were four disconnected discussions.[16] In chapter 5, I will argue that this is in fact far from the truth. To anticipate briefly, I intend to argue that the discussion in chapters 1-3 shows that there is a common underlying theme in each one of Aristotle's attempts to rebut determinism. In particular, I will show that in *Met.* Ε. 3, Θ. 3, and *DI.* 9, the Stagirite's response to necessitarianism is grounded in a thesis which occurs time and again in his works on natural philosophy. *Very briefly*, this thesis has it that:

> (i) There are certain entities in nature, *viz.* the individuals in the sublunary realm, which have double (passive) capacities.
> (ii) There are also things in nature, such as the individuals in the realm of the heavenly bodies, which have only single capacities that they exercise sempiternally.
> (iii) Due to their nature, the individuals in the sublunary realm are such that their future is open. To use Aristotle's own terminology, the events which involve this kind of entities do not happen 'always' (ἀεί) or 'of necessity' (ἐξ ἀνάγκης). Rather, they are events which: (a) happen 'for the most part' (ὡς ἐπὶ τὸ πολύ), or (b) happen neither 'always' (ἀεί) nor for the most part; *viz.* they happen 'accidentally' (κατὰ συμβεβηκός).
> (iv) By contrast, the individuals in the realm of the heavenly bodies are such that their future is fixed. As Aristotle puts it, the events which involve this kind of entities happen 'always' (ἀεί) or 'of necessity' (ἐξ ἀνάγκης).[17]

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[16] See, for example, Gaskin, 1995, Hintikka, 1973, and Sorabji, 1995.

[17] Aristotle presents this thesis, either in a complete or an abbreviated form,

What I also intend to do in chapter 5 is to suggest that *DC* Α. 12 poses problems for Aristotle's drive to neutralize determinism, because it contains material that may be used to show that he deviates from the thesis just outlined.

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in a number of texts. See, for example, *Met.* Δ. 30, Ε. 2, Θ. 8. (1050b6*ff*), and *De Generatione et Corruptione* (*GC*) Β. 11. Some of these texts will be discussed in chapters 1, 2, and 5.

# CHAPTER 1

## *Aristotle on Accidental Causation and Determinism*

### I. *Introduction*:

In the opening sentence of *Met.* E. 3, Aristotle indicates that he is about to discuss an issue that pertains to causation. To be more specific, he states that it is 'obvious' (*φανερόν*) that there are 'principles' (*ἀρχαί*) and 'causes' (*αἴτια*)[1] which are *γεννητὰ καὶ φθαρτὰ ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι*.[2] And in the rest of the chapter, *viz.* 1027a30*ff*, he appears to be giving an argument which is intended to support this claim.

The consensus among the scholars is that E. 3 is rife with interpretive difficulties.[3] As was just mentioned, in 1027a29-30 Aristotle makes a claim for the existence of a certain kind of causes. What poses problems for the interpreter is the fact that there is no place in *Met.* E, or for that matter anywhere else in the *corpus*, where the Stagirite makes an attempt to unpack the claim of 1027a29-30. That is, there is no text where Aristotle explains what it means to say that a cause is *γεννητόν* and *φθαρτὸν ἄνευ τοῦ γίγνεσθαι* καὶ φθείρεσθαι. And what seems to complicate the interpretation of E. 3 even further is the material in 1027a30*ff.* The presence of the postpositive conjunction 'for' (γάρ) at both 1027a30 and 1027a33, suggests that the main body of text in E. 3 is meant to present an argument for the assertion made at 1027a29-30. As C. Kirwan points out, however, even though there are a number of suggested readings for 1027a29-30, it is still hard to see how these lines are ultimately connected to the material in 1027a30*ff.*[4] In fact, Kirwan has repeatedly declared that E. 3 as a whole has 'yet to receive a satisfactory interpretation' (Kirwan, 1993: 196, 222).

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[1] There is evidence which indicates that Aristotle does not use the terms *ἀρχαί* and *αἴτια* synonymously; see, for instance, *Met.* A. 8. 989b21-24. This, however, is a point which will not affect our present discussion. For further details on this issue, see Bosley & Panayides, 2000.

[2] *Met.* E. 3. 1027a29-30.

[3] See, for example, Kirwan, 1993: 198, and Ross, 1958: 362. As A. Madigan reports, the many difficulties with E. 3 were also noticed by the earlier commentators; see Madigan, 1984: esp. pp. 123-5.

Whether Kirwan's assessment of the existing interpretations of E. 3 is a fair one is something that remains to be seen. What seems be clear at this point, though, is that the key to the resolution of the puzzles that surround this difficult chapter is the reconstruction of the sentence at 1027a29-30 -- the one I have deliberately omitted to translate in the last two paragraphs. That is, it seems that an exegetically sound interpretation of E. 3 is contingent on providing a correct reading for Aristotle's claim that there are causes which are γεννητὰ καὶ φθαρτὰ ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι. Putatively, if this goal is achieved, then we may: (a) determine the purpose of E. 3 -- which is announced in the first sentence of the chapter, and (b) decipher the argument in 1027a30*ff.*

In this chapter, I propose to defend a reading of the first sentence of E. 3 which has it that:

> (1) In 1027a29-30, Aristotle announces that there are certain causes which are accidental events.

---

[4] See Kirwan, 1993: 222-5.

> (2) According to the Stagirite, these causes have a distinguishing mark: they have the capacity to generate and to destroy, that is to say they are γεννητά and φθαρτά, 'without going through a process of coming to be and being destroyed' (ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι).[5]

Furthermore, I will show that the rest of the material in E. 3 deals with, or is relevant to, determinism.[6] To anticipate briefly, I intend to do two things. First, I will show that in 1027a30-2 Aristotle gives the outline of an argument for the claim made at 1027a29-30. And second, I will argue that in 1027a32*ff* the Stagirite fleshes out the argument of 1027a30-2. In particular, he spells out the details of an argument which goes as follows: if the claim of 1027a29-30 is false, then a form of causal determinism ensues; causal determinism is a demonstrably untenable thesis; therefore, it should be clear that there are indeed causes which are accidental events.[7]

## II. *The recent commentators on Met. 1027a29-32*:

As was noted above, the key to the successful interpretation of E. 3 seems to be in the first two lines of the chapter. We will be seeing shortly, however, that some of the recent interpreters maintain that to resolve the problem posed by 1027a29-30, we need to consider the entire first paragraph of E. 3[8]:

---

[5] The reading of 1027a29-30 outlined above, *viz*. (1)-(2), is a modified version of the one found in Kirwan, 1993: 195-8, 222-5; see also Ross, 1958: 361-6. I will discuss the *crucial* modifications effected on this reading of 1027a29-30 in parts **III** and **V**. Note also that the Kirwan/Ross interpretation of these lines is implicitly assumed in most of the recent accounts of E. 3; see, for instance, Gaskin, 1995: ch. 14, and Sorabji, 1980: ch. 1.

[6] The standard view, with which I intend to side, has it that in 1027a32*ff* Aristotle argues against causal determinism. See, for example, Gaskin, 1995: ch. 14; Kirwan, 1993: notes on E. 3; Ross, 1958: notes on E. 3; Sorabji, 1980: ch. 1; Williams, 1986. For an interesting variation on this view, see Frede, 1985: 218 *ff*, and Freeland, 1991: esp. pp. 66-70. [Note also that G. Fine has, on a couple of occasions, indicated her intention to show that Aristotle *is* a causal determinist; see Fine, 1981; 1984: p. 41, fn. 2. Fine, however, is yet to provide us with an argument for this claim.]

[7] As it will soon become clear, the form of determinism with which Aristotle is concerned is not quite the same as what *we* would call 'causal determinism'. I will not spend time here to spell out the differences between modern and ancient causal determinism. For a useful introductory discussion of modern causal determinism, see Weatherford, 1991: esp. chs 1-11.

> **[1027a29]** ὅτι δ᾽ εἰσὶν ἀρχαὶ καὶ αἴτια γεννητὰ καὶ φθαρτὰ **[30]** ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι, φανερόν. εἰ γὰρ μὴ **[31]** τοῦτ᾽, ἐξ ἀνάγκης πάντ᾽ ἔσται, εἰ τοῦ γιγνομένου καὶ φθειρομένου **[32]** μὴ κατὰ συμβεβηκὸς αἴτιον τι ἀνάγκη εἶναι.

According to Kirwan, who is widely considered to be the most prominent advocate of the interpretive orthodoxy[9], this piece of text is to be translated as follows:

> **[1027a29]** It is obvious that there are origins and causes that are able to come to be and to be destroyed **[30]** without [being in process of] coming to be and being destroyed. For otherwise **[31]** everything will be of necessity, if whatever is [in process of] coming to be and being destroyed **[32]** necessarily has some cause non-coincidentally.
>
> (Kirwan, 1993: 71)

Apparently, Kirwan's position is this. In 1027a29-30, the Stagirite asserts that there are causes which are generable and destructible, but which are never in process of being generated and destroyed. What is this supposed to mean? Kirwan takes it that the thesis Aristotle is trying to put forward in the opening sentence of E.3 is the following:

> (1) Besides causes which are non-accidental events, there are also causes which are accidental comings-to-be.
>
> (2) These latter causes have certain characteristics:
>
> > (a) Like the causes which are non-accidental events, they are 'able to come to be and to be destroyed'; *viz*. they are γεννητὰ καὶ φθαρτά.
> >
> > (b) Unlike the causes which are non-accidental events, they are able to come to be and to be destroyed 'without being in process of coming to be and being destroyed' (ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι). That is to say, they are capable of coming to be and perishing *instantaneously*.[10]

---

[8] In particular, we will see that this is the view held by C.J.F. Williams; see Williams, 1986: 181-4. See also Tweedale, 1997.

[9] See, for example, Madigan, 1984: 125, and Williams, 1986: 181-3. See also fns 5 & 10.

[10] See Kirwan, 1993: 197-8. Note that Kirwan's interpretation is based on the one proposed by Ross; see Ross, 1958: esp. pp. 361-3. Furthermore, note that

Naturally, the next question that arises here is this: 'Is the above, *viz*. (1)-(2), a plausible reconstruction of 1027a29-30?'. In his notes on E. 3, Kirwan candidly admits that this interpretation of the text is not problem-free. He concedes that there are difficulties in explaining how the claim for the existence of causes whose coming to be does not take time, ties in with the rest of the material in the chapter. More precisely, he notes that: (a) it is clear that 1027a30*ff* is intended to provide support for the claim made at 1027a29-30; and putatively, the claim is that there are causes which come to be and cease to be instantaneously, but (b) it is not easy to see how 1027a30*ff* may be construed as arguing for the existence of such causes.[11]

Are there any alternative interpretations for 1027a29-30? Apparently, there are a number of different readings for these two lines. In the next few pages, I will examine three of them.[12]

According to A. Madigan, there are two alternatives to the Kirwan view -- which he refers to as the 'standard view'.[13] The first one, the origins of which he traces back to the commentaries of Jaeger and Aquinas, suggests that to capture the meaning of 1027a29-30 we need to do two things: (a) we ought to provide a

---

similar interpretations were suggested by Bonitz and Tricot. For more details on this last point, see Madigan, 1984: esp. pp. 123-5.

[11] See Kirwan, 1993: esp. pp. 196-8, 222-51. What we need to point out here is that Ross expresses similar doubts concerning the reading of the text outlined above; see Ross, 1958: 362. For other problems with this reading of 1027a29-30, see Frede, 1985: 220, Tweedale, 1997: esp. pp. 3-4, and Williams, 1986: 181-184.

[12] Besides the three readings about to be examined here, see Tweedale, 1997: 5-8, and Bosley, 1998: esp. pp. 224-7. [Bosley's suggestions will be discussed in part **III** & **V**.]

[13] See Madigan, 1984: 124.

subject for the infinitives γίγνεσθαι and φθείρεσθαι at 1027a30, and (b) we ought to acknowledge that the most appropriate subject for these two infinitives is 'the effects'.[14] Obviously if this much is accepted, then 1027a29-30 has to be read as follows:

> It is evident that there are principles and causes which are such as to come to be and perish without the effects' coming to be and perishing.

As Madigan puts it, the reading just proposed has it that in 1027a29-30 Aristotle distinguishes 'the causes, which come to be and perish, from the ... effects ... which fail, or may fail, to come to be or perish' (Madigan, 1984: 125-6). In other words, the interpretation at hand presents the Stagirite as saying that there are causes which actually do come to be and perish, but which fail, or may fail, to bring about their *expected* effects.

What remains to be seen, of course, is whether this interpretation is a viable one.[15] Madigan's position is that there is no conclusive evidence either for or against this reconstruction of 1027a29-30.[16] It seems to me, though, that there is (at least) one definite problem with it.

In the first few lines of *Met*. E. 2, Aristotle distinguishes the various senses of 'being' (τὸ ὄν). He says, among other things, that:

> ... that which *is* (τὸ ὄν), when baldly so called, may be so called in several ways. One of them was that [which is] accidentally (κατὰ συμβεβηκός), another that [which is] as true (and that which is not, that [which is] as falsehood).[17]
>
> (*Met*. E. 2. 1026a33-5)

---

[14] See Madigan, 1984: 124-6. See also fn. 15.

[15] Note that this interpretation does not coincide with the views of either Jaeger or Aquinas. It is, however, loosely based on their respective notes on E. 3. 1027a29-30.

[16] See Madigan, 1984: 131.

[17] Kirwan's translation, slightly modified; see Kirwan, 1993: 68. Note that 'accidentally' is not always the best rendering for κατὰ συμβεβηκός. For further details on this point, see the discussion in part V, and especially fn. 69.

And after stating this much, the Stagirite proceeds to do two things:

> (1) He acknowledges the need for a discussion of the various senses of 'being' -- including that which is 'accidentally' (τὸ κατὰ συμβεβηκὸς), and that which is as true or false.[18]
> (2) He devotes the rest of E. 2 to a discussion of the accidental.

What is also important to note here is that in the closing sentence of E. 2 Aristotle appears to be making a comment to the effect that the discussion of the accidental has been completed.[19] This has prompted some of the commentators to claim that (a) the material in E. 3 cannot be a mere continuation of the discussion in E. 2, and (b) the idea that E. 3 is concerned with the accidental has to be treated as a hypothesis and not as a datum.[20] The first of these claims, *viz*. (a), is certainly true; (b), however, needs to be approached with caution.

As was just pointed out, in the main body of E. 2 Aristotle conducts a discussion of the accidental -- a discussion which he declares to be complete at the end of the chapter. What it is imperative to note here, though, is that it is only in E. 4 that the Stagirite begins his (preliminary) discussion of the next sense of 'being'; namely, the discussion of that '[which is] as true (and ... that [which is] as falsehood)'.[21] Furthermore, and perhaps most importantly, before Aristotle begins his discussion of this issue in E. 4 he makes the following statement: 'So much for that which is accidentally; for its nature has been sufficiently determined' (περὶ μὲν οὖν τοῦ κατὰ συμβεβηκὸς ὄντος ἀφείσθω· διώρισται γὰρ ἱκανῶς).[22] This much seems to suggest that E. 3, despite the comment at the end of E. 2 (*viz.* 1027a26-8), is also concerned with the investigation of the accidental. In fact, if we refuse to accept this point, then we will be hard pressed to explain the purpose of the remark in the opening sentence of E. 4. Thus, given the textual evidence it is natural to assume that in 1027a29-30, where the subject matter of the discussion in E. 3 is sketched out, Aristotle makes an assertion concerning the accidental. Madigan's first alternative to the standard view, however, seems to ignore all this. It construes 1027a29-30 as making a claim about what happens 'for the most part' (ὡς ἐπὶ τὸ πολύ), and *not* about that which happens rarely, namely, the accidental.[23] In particular, it construes these two lines as saying that: there are causes which are *usually* connected with certain specific effects; these causes, though, sometimes fail to bring about their expected effects.[24] And obviously, if this is the claim Aristotle is trying to make in 1027a29-30, and given that 1027a30*ff* is supposed to provide support for the claim made in these two lines, then it is not quite clear how the material in E. 3 relates to the treatment of the accidental. Hence, I would like to submit that to accept Madigan's first alternative to the standard view, as it stands, is to place E. 3 out of context.

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[18] See *Met*. E. 2. 1026b2-3.

[19] See *Met*. E. 2. 1027a26-8. In particular, Aristotle says that 'We have stated, then, what the accidental is and the cause why it is, and that there is no science that deals with it' (τὶ μὲν οὖν ἐστὶ τὸ συμβεβηκὸς καὶ διὰ τίν' αἰτίαν καὶ ὅτι ἐπιστήμη οὐκ ἔστιν αὐτοῦ, εἴρηται).

[20] See Madigan, 1984: 127-8, 132.

[21] Aristotle gives his main treatment of these issues in *Met*. Θ. 10.

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[22] *Met.* E. 4. 1027b17-8.

[23] As was noted in the introductory chapter, in the *corpus* Aristotle defines the accidental as that which happens neither always (ἀεί) nor for the most part (ὡς ἐπὶ τὸ πολύ); see, for example, *Met.* Δ. 30, and E. 2. See also the discussion in part **IV**.

[24] As we will see later on, *viz.* part **IV**, this is (roughly) Aristotle's definition of events which are 'for the most part' (ὡς ἐπὶ τὸ πολὺ). See also fn. 23.

The other alternative to the standard view that Madigan identifies proposes that we should read 1027a29-30 as saying that: 'there are causes which are capable of coming to be and perishing, but which never actually come to be'. In other words, this second view presents Aristotle as claiming that there are causes which remain unrealized possibilities.[25] And once more, Madigan contends that this thesis, like the one considered above, is not subject to any definitive objections.[26] It seems, however, that it suffers from the same problem that plagues the first alternative to the standard view. That is, it is not clear how the existence of causes which are capable of coming to be, but which never actually come to be, relates to the discussion of the accidental. Thus, it appears that to adopt Madigan's second reading of 1027a29-30, is to alienate E. 3 from its natural context.

In his notes on E. 3, Kirwan claims that the main rival of his interpretation of 1027a29-30 is due to C.J.F. Williams.[27] The remainder of this part of the chapter will be given to an analysis and evaluation of this third alternative to the standard view.[28]

Williams launches his discussion of E. 3 by pointing out that the advocates of the standard view concede that their reading of 1027a29-30 is problematic.[29] Then he proceeds to do two things. First, he argues that given its obvious problem(s), the traditional reconstruction of 1027a29-30 ought be rejected. That is, he argues that we should reject the view that in these lines Aristotle claims that there are causes whose coming to be takes no time. And second, he proposes a new translation for the opening paragraph of E. 3:

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[25] See Madigan, 1984: 126. [Compare this reading of 1027a29-30, with the one proposed by C.J.F. Williams -- a reading which is discussed in pp. 16-24.]

[26] See Madigan, 1984: 132.

[27] See Kirwan, 1993: 223-4.

[28] See Williams, 1986.

[29] As was noted earlier on, Kirwan admits that it is not easy to see how 1027a30*ff* may be construed as arguing for the claim that there are some causes which are capable of coming to be and perishing instantaneously.

> That there are principles and causes which are capable of coming to be and perishing without <actually> coming to be and perishing is clear. For if this were not so, everything would be of necessity, given that there must needs be a cause of what non-acidentally comes to be and ceases to be.[30]

What *exactly* is the interpretation Williams is trying to put forward? As was just noted, he thinks that it is important that we should not impute to Aristotle the view that there are causes which come to be instantaneously. And putatively, his reading of 1027a29-30 succeeds in doing just that. In particular, Williams argues that under his reading of these lines Aristotle is saying that:

> (1) Besides causes which are non-accidental events, there are also causes which are accidental comings-to-be.[31]
> (2) The causes which are accidental events have this distinguishing mark: they are capable of coming to be and perishing, without *having to actually* come to be and perish.[32]

To spell things out a bit, Williams' position is this. The Stagirite takes it that there exists a certain class of comings-to-be $\Sigma$, such that: $e$ qualifies as a member of $\Sigma$, if and only if $e$ is such that it is possible for it to come to be (or perish), but it is not necessary for it to actually come to be (or perish). And finally, Williams claims that the members of class $\Sigma$ which *do* actually come to be, are the causes Aristotle describes in 1027a29-30.

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[30] See Williams, 1986: 181.

[31] See Williams, 1986: 182-3. Note that this, *viz.* (1), is a point of agreement between Williams and Kirwan.

[32] See Williams, 1986: esp. pp. 183-4.

What needs to be clarified here is that this is just the first step in Williams' interpretation of 1027a29-32.[33] He goes on to point out that to accept the claim of 1027a29-30 is to reject a certain form of determinism. More precisely, he notes that:

> (1) To accept the claim of 1027a29-30, is to reject a certain modal thesis $\mathcal{M}$ = 'If possibly *p*, then actually *p*'.[34] In other words, to accept that there are certain possible comings-to-be some of which are never to be actualized, is in effect to reject $\mathcal{M}$; *viz*. the thesis that everything which is possible is actual.
>
> (2) Accepting the thesis $\mathcal{M}$ is tantamount to accepting the thesis $\mathcal{M}'$ = 'Anything not actual is impossible'.
>
> (3) Accepting the thesis $\mathcal{M}'$ is tantamount to admitting the determinist thesis $\mathcal{D}$ = 'If actually *p*, then necessarily *p*'.
>
> (4) There is textual evidence which shows that Aristotle considers $\mathcal{D}$, and its equivalents, to be evidently false.[35]
>
> The above, *viz*. (1)-(4), seems to entitle Aristotle to the conclusion that: there are events, which may serve as causes, that are capable of coming to be (and perishing) without actually having to come to be (or perish).

Williams readily acknowledges that there is a *prima facie* problem with the story just recounted. As was indicated earlier on, E. 3 as a whole is concerned with the refutation of a form of determinism, namely causal determinism, which appears to be distinct from thesis $\mathcal{D}$. Williams' response is that the solution to this puzzle is to be found in lines 1027a30-2. He urges us to note that:

> (i) In lines 1027a30-1, we are told that if the thesis of 1027a29-30 is not accepted, *viz*. if every cause is a necessary event, then everything will be of necessity (εἰ γὰρ μὴ τοῦτ᾽, ἐξ ἀνάγκης πάντ᾽ ἔσται).
>
> (ii) In lines 1027a31-2, the Stagirite goes on to justify the claim he has just made. That is, he explains that if the thesis of 1027a29-30 is rejected, then everything will be of necessity, '... given that there must needs be a cause of what non-accidentally comes to be and ceases to be' (εἰ τοῦ γιγνομένου καὶ φθειρομένου μὴ κατὰ συμβεβηκὸς αἴτιόν τι ἀνάγκη εἶναι).

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[33] What follows in the next couple of paragraphs is a summary of Williams, 1986: 182-184.

[34] Williams takes it that $\mathcal{M}$ is the Megarian thesis Aristotle argues against in *Met*. Θ. 3; see Williams, 1986: 183, and esp. fn. 5. For further discussion of this issue, see chapter 3.

[35] See fn. 34.

The question that remains to be answered, of course, is how this much relates to Aristotle's attempts to refute causal determinism. Williams' view is that what the Stagirite is trying to say in 1027a30-2 is something along these lines. If the universe is such that (a) every cause is a necessary event, *and* (b) every non-accidental event has to have a cause, then causal determinism ensues. Assume, for instance, that event $E_m$ is the cause of event $E_n$. Given that $E_m$ is a necessary/non-accidental event, then it has to have a cause of its own; *viz.* $E_\ell$. Given the fact that *every* cause is a necessary event, then two things seem to follow. First, the coming about of $E_m$ is determined by the prior cause $E_\ell$. And second, $E_\ell$ has (to have) a determining cause of its own; *viz.* $E_k$. To make a long story short, if what we have at hand is a universe that satisfies conditions (a) and (b), then every causal chain is such that each and every one of its constituents is a necessary coming-to-be that is determined by a prior cause. Now, Williams' suggestion is that what worries Aristotle in E. 3 are causal chains like this, which come back from a future event and terminate in a past or present event.[36] To be more specific, he takes it that the aim of the discussion in 1027a32*ff* is to show, in some detail, how this particular form of causal determinism may be blocked. And, Williams argues, the point of 1027a29-32 is to give us a preview of the material in 1027a32*ff*. That is, he claims that 1027a29-32 is to be reconstructed as follows. If every cause is a necessary event, and if every non-accidental event has to have a cause, then everything will be of necessity (1027a30-2). To be more specific, if these two conditions are satisfied, then a certain form of causal determinism seems to follow. As it is explained in 1027a32*ff*, to rebut this evidently absurd thesis, we need to show how the determinist's causal chain may be stopped from reaching the past/present. In this later stretch of text, Aristotle tells us that this may be done by introducing in the chain a cause which is capable of coming to be, but which does not have to actually come to be. Such an event is not determined by any previous cause; in fact, this kind of event is an uncaused cause. It is the role these events play in the rebuttal of causal determinism, *and* (putatively) the argument against thesis $\mathcal{D}$, that motivates Aristotle to make the claim of 1027a29-30; *viz*. the claim that the existence of such causes should be an evident fact.

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[36] More precisely, what worries Aristotle is this. If every causal chain is like the one described above, and if all of them reach a present(/past) event, then every future event is now determined. This form of causal determinism, which is clearly identified in 1027a32*ff*, will be discussed in detail in parts **III-IV**.

To sum up, Williams' view is that the Stagirite's goal in 1027a29-32 is to indicate how causal determinism is to be blocked. His contention is that Aristotle's full-blown argument against this form of determinism comes only in 1027a32*ff*. As he notes, the role of 1027a29-32 is to merely tell us that: if there are no causes which are accidental events, and given that every non-accidental event has to have a cause, then determinism ensues; in particular, what seems to ensue is a form of causal determinism; the only way to rebut the (causal) determinist's position, which is evidently absurd, is to accept that there are causes which are accidental comings-to-be; hence, it ought to be clear that the existence of such causes is an indisputable fact.

The next thing we need to do, is to consider whether this reconstruction of 1027a29-32 is a viable one. It seems to me that there are a number of difficulties for Williams' reading of these lines. In what follows, though, I will review just two of them: the ones which seem to me to be the most obvious.

It is true that if (a) every cause is a necessary/non-accidental event, and (b) every non-accidental event must have a cause, then a certain form of causal determinism ensues. To get this much out of 1027a30-2, however, Williams is forced to give us a very specific reading of 1027a31-2. As we have seen, he translates εἰ τοῦ γιγνομένου καὶ φθειρομένου μὴ κατὰ συμβεβηκὸς αἴτιον τι ἀνάγκη εἶναι as 'given that there must needs be a cause of what non-accidentally comes to be and ceases to be'. It is this translation which allows Williams to construe 1027a31-2 as giving us the premise, *viz.* (b), which along with (a), yields causal determinism. The problem with it, is that it ignores two important facts. First, it construes 1027a31-2, which is putatively a premise that forms an integral part of the determinist's argument, as an after-thought to the line of reasoning beginning at 1027a30. And second, 1027a31-2 is most naturally read *not* as giving us such a premise, but as an epexegesis of εἰ γὰρ μὴ τοῦτ '; namely, Williams' premise (a). That is to say, 1027a30-2 is most naturally read as saying that: if the thesis of 1027a29-30 is not accepted (1027a30-1), that is to say, if *every* event *e* has a non-accidental cause (1027a31-2), *viz.* a cause which non-accidentally generates (or destroys) *e*, then everything will be of necessity (1027a31).[37] Furthermore, it will be shown in parts **III-V** that if this reconstruction of the text is accepted, then we can make good sense out of E. 3 as a whole. Yet, Williams may counter that even though this reading of 1027a30-2 may be plausible, there is some extra motivation for accepting his own reconstruction of these lines. That is, if we admit his reading of 1027a31-2, then it seems that the point Aristotle is trying to make is this: non-accidental comings-to-be, as opposed to accidental ones, must have a cause of their own. In fact, he *explicitly* states that the final clause in the opening paragraph of E. 3 is intended to note that non-accidental events must have a cause, whereas those ones which are accidental are uncaused events.[38] As Williams goes on to claim, this accords with 1027b11-14, where Aristotle seems to be saying that the cause which breaks the determinist's causal chain is an uncaused cause.[39] We will see later on, however, that 1027b11-14 need not be interpreted this way. And what is even more important, is that there is evidence which contradicts Williams' position. In *Physics* (*Phys.*) B. 5, Aristotle tells us that the accidental event which brings about the collection of the debt by the creditor, namely his meeting with the debtor at the market-place, not only has a cause, but it can have a number of alternative causes.[40] If this much is right, then I think that there is no motivation to accept Williams' reading of 1027a30-2, and that we ought to give the alternative (natural) reading of the text, *viz.* the one identified above, a fair hearing.

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[37] As we will see later on, *viz.* in part **IV**, Aristotle holds that if an event *e* has an accidental cause, *viz.* a cause which does not always/for the most part generate the event *e*, then *e* is an accident.

[38] See Williams, 1986: 182-183.

[39] See Williams, 198: 183.

[40] See *Physics* (*Phys.*) B. 5. 197a12-17. See also the discussion in parts **IV-V**.

The second problem with Williams' reconstruction of the opening paragraph of E. 3 concerns also matters linguistic. He contends that we need to translate 1027a29-30 as saying that there are causes which are possible comings-to-be, but which do not have to actually come to be. And the reason, he thinks, we ought to adopt this reading of the text is that the alternative, *viz.* Kirwan's translation, forces us to admit an implausible claim: that Aristotle holds that there are causes which come to be (and perish) instantaneously. More precisely, Williams takes it that if we translate ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι as 'without going through a process of generation and corruption', then there is no way to avoid the absurdity of Kirwan's position. Thus, he goes on to advance his own translation of this phrase. It should be clear, however, that the natural translation of the contested phrase *is* the one suggested by Kirwan. That is, it is natural to translate ἄνευ + the articular infinitives τοῦ γίγνεσθαι and τοῦ φθείρεσθαι as 'without going through a process of generation and corruption'. On the other hand, Williams' reading requires that we provide the word 'actually'. In fact, to get the meaning Williams wants out of 1027a29-30, we need to provide the phrase 'actually having to'. My proposal is that there is no reason we should discard Kirwan's translation of ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι, *provided* we can supply a plausible analysis of it. More specifically, my suggestion is this. If there is a way to defend the view that Aristotle's intended claim (in 1027a29-30) is that there are causes which can generate and destroy without going through a process of generation and destruction, and I will argue that there is a way to do just this, then so much the worse for Williams' reading of 1027a29-30.[41]

What seems to follow from the discussion so far, is that none of the four interpretations examined here is tenable. The issue that remains to be addressed, though, is whether 1027a29-32, and consequently the rest of E. 3, may still be provided with a satisfactory interpretation. What I intend to do in what follows, is to (a) propose a new reading for the opening paragraph of E. 3, and (b) show that this new reading of 1027a29-30 can yield a viable interpretation for E. 3 as a whole.

### III. *On how to read Met. 1027a29-32*:

In part **II**, we saw that modern interpreters take it that where Aristotle says that 'there are causes which are γεννητά and φθαρτά', he means to say that 'there are causes which are *capable of coming to be and perishing*'. It seems to me that there are three things we ought to note at this point. First, it is clear enough that the verbal adjective γενητά, spelled with a single ν, ought to be translated as 'generable'. Second, in *Met*. H. 1. 1042b5*ff* Aristotle tells us that besides matter which admits of change of place, there is also matter which is 'for generation and destruction' (γεννητὴν καὶ φθαρτήν). It seems, then, that in this context he does not use the verbal adjectives γεννητήν and φθαρτήν to indicate that matter is itself *generable* and *destructible*. That is, his claim is not that there is matter which is generable and destructible, but that there is matter for the generation and destruction of something else. And third, it should be noted that the manuscript tradition allows for the possibility that the first verbal adjective in Met. E. 3 is γεννητά, spelled with double ν, and not γενητά. On the basis of the above Bosley has recently urged us to note that the verbal adjectives γεννητά and φθαρτά in E. 3 have the same meaning as γεννητή and φθαρτή in H.1. That is, where Aristotle says that there causes which are γεννητά and φθαρτά he means to say that there are causes which are there for the generation and destruction of something else. Thus, Bosley proceeds to claim that there are two possible readings for the contested text:

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[41] Note that my reading of 1027a29-30 does *not* coincide with that given by Kirwan. I discuss the all-important difference(s) in parts **III** and **V**.

> ***Reading 1***: If we assume that the verbal adjectives in E.3 are γενητά and φθαρτά, then it is plausible to assume that 1027a29 should read 'there are causes (and principles) which are generable and destructible'.
>
> ***Reading 2***: If we assume that the verbal adjectives in E.3 are γεννητά and φθαρτά, then 1027a29 should read 'there are causes (and principles) for the generation and destruction of something else'.[42]

And Bosley's suggestion is that the verbal adjectives in E. 3 should be taken to express the capacity of some causes to generate or to destroy *something else*.[43]

What I would like to clarify at this point is that Bosley's proposal does not seem to be subject to any kind of *a priori* justification.[44] I intend to show, however, that if we adopt his reading of γεννητά and φθαρτά, *viz.* ***Reading* 2**, then we can give a viable interpretation for 1027a29-32.

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[42] See Bosley, 1998: 224-226.

[43] Note that Bosley gives at least one tentative reason as to why ***Reading 2*** is a viable option in the context of E. 3. In particular, he claims that: 'Since the opening sentence of Chapter 3 ... concerns causes ..., the adjectives should be translated as indicating a capacity for something else becoming or being destroyed rather than a capacity for their own becoming or being destroyed' (Bosley, 1998: 226).

In more detail, my proposal is that the correct translation for the opening paragraph of E. 3 is this:

> **[1027a29]** That there are principles and causes which can generate and destroy **[30]** without going through a process of generation and destruction is obvious. For if this is not **[31]** so, *viz.* if it is the case that whatever is generated and destroyed **[32]** necessarily has some non-accidental cause, then everything will be of necessity.

And, the interpretation I want to put forward is this:

> (1) In 1027a29-30, Aristotle asserts that there are certain causes, namely those causes which are accidental events, that can generate and destroy [*something else*] without going through a process of generation and destruction. As I will show in part **V**, if we accept this reading of 1027a29-30, we can retain the natural translation of ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι, without having to saddle Aristotle with the claim that there are causes whose coming to be and perishing takes no time.
>
> (2) In 1027a30-2, the Stagirite proceeds to say that if there are no such causes, *viz.* if it is necessary that all comings-to-be have a non-accidental cause, then everything will be of necessity. In other words, I take it, *contra* Williams, that the clause of 1027a31-2 (εἰ τοῦ γιγνομένου … ἀνάγκη εἶναι) is a genuine conditional which repeats the content of εἰ γὰρ μὴ τοῦτο.

In this part of the chapter, I will provide support for the claim that in 1027a29-32 Aristotle gives the sketch of an argument for the existence of causes which are accidental events. In part **IV**, I will show that if this much is right, then we can easily see what the Stagirite is trying to do in 1027a32*ff*. And finally, in part **V** I will explain how we are to deal with Aristotle's description of those causes which are accidental events. That is, I will explain how we are to deal with the claim that these are causes which can generate and destroy without going through a process of generation and destruction.

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[44] See Bosley, 1998: 226. See also fn. 43.

As we have already seen, E. 2 and E. 4 contain a number of clues which may help us understand the material in E. 3. In E. 2, Aristotle launches an investigation of the accidental. More precisely, he conducts an examination whose primary aim is to do two things: (a) define what an accidental coming-to-be is, and (b) explain why there is no science which is concerned with accidental comings-to-be.[45] What we have also seen, is that at the end of E. 2 Aristotle seems to declare this examination to be complete. Then, we get the stretch of text in E. 3 which lies between the study of the accidental in E. 2, and the preliminary discussion of truth and falsehood in E. 4.[46] And the question we are faced with is this: 'What is the role of E. 3 in *Met.* bk. E?'. As was noted in part **II**, the answer to this question appears to be in the first sentence of E. 4. In 1027b17-8, Aristotle states that 'it is time to set the accidental aside, as it has now been sufficiently dealt with'. Thus, I submit, it is only natural to assume that in E. 3 Aristotle is still concerned with the discussion of some aspect of the accidental.

What *precisely* is the subject matter of E. 3? It is sufficiently clear from 1027a29-30, that Aristotle's intention in this chapter is to talk about a certain kind of causes; *viz.* causes which he describes as being able to generate and destroy, without going through a process of coming to be and perishing. Given that the collective textual evidence indicates that E. 3 is still concerned with the accidental, it seems plausible to assume that in this chapter the topic of discussion is that of causes which are accidental events. What lends support to this claim is the evidence from E. 2. In this chapter, Aristotle talks about comings-to-be which are deemed to be accidental. He does not, however, provide a discussion of the causes which bring about such comings-to-be. Regarding this matter, he simply notes that '... of things that are or come to be accidentally the cause is also accidental' (τῶν ... κατὰ συμβεβηκὸς ὄντων ἢ γιγνομένων καὶ τὸ αἴτιόν ἐστι κατὰ συμβεβηκός).[47] That is to say, his claim is that an accident has a cause which is also an accidental event.[48] Given the absence of a treatment of these causes in E. 2, *and* the remark in the opening sentence of E. 4, I think we have good reason to think that (a) 1027a29-30 gives us a description of those causes which are accidental comings-to-be, and (b) 1027a30*ff* is an extended argument which is intended to prove the existence of causes which are accidental events. At this point, I have to concede that there is no place in the *corpus* where Aristotle *explicitly* says that a cause which is an accidental event, is 'able to generate and destroy without going through a process of coming to be and perishing'. I intend to show, however, that if this proposal is accepted then we can make good sense of lines 1027a29-32 and more.[49]

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[45] For a useful discussion of the material in *Met.* E. 2, see Sorabji, 1980: 4-6. See also Gaskin, 1995: ch. 14.
[46] See fn. 21.

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[47] *Met.* E. 2. 1027a7-8.

[48] What I think is important to note here, is that the claim of *Met.* 1027a7-8 is to be distinguished from Aristotle's declaration at 1027a13-15 that 'matter ... is the cause of the accidental'. The claim at 1027a7-8 is to the effect that every accidental event has a cause which is also an accidental event. On the other hand, the claim at 1027a13-15 is to the effect that the very existence of the accidental is due to the nature of matter. I will come back to this issue in chapter 5.

[49] For a different argument in support of the claim that in 1027a29-30

Given the discussion in the last couple of paragraphs, it turns out that in 1027a29-30 Aristotle makes two claims:

> (1) It is clear that there are causes which are able to generate (and destroy), without going through a process of coming to be and perishing.
>
> (2) This description fits those of the causes which are accidental events.

What should also be clear is that it is possible to translate 1027a30-2 so as to accommodate (1)-(2). That is, under the translation I suggested above, in 1027a30-2 Aristotle reasons as follows. Why is it clear that there are causes which are accidental events; namely, causes which fit the description given above [in (1)]? *Because*: if the claim for the existence of such causes is not true, that is to say, if it is necessary that every coming-to-be has a non-accidental cause, then everything will be of necessity.

Obviously, this reconstruction of the text leaves us with two related questions. Why does Aristotle think that the rejection of the claim made at 1027a29-30 leads to the conclusion that 'everything will be of necessity' (ἐξ ἀνάγκης πάντ᾽ ἔσται)? What *exactly* does the Stagirite mean when he says that 'everything will be of necessity'? It seems to me that the structure of the text plainly shows that the answers to these questions are to be found in the rest of the chapter, *viz*. 1027a32*ff*. That is, it seems to me that the text is to be read as follows. In 1027a29-30, Aristotle asserts the existence of a certain kind of causes. In 102730-32, he tells us that if we refuse

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Aristotle gives the mark of those causes which are accidental events, see: Gaskin, 1995: 193-5; Kirwan, 1993: 196; Ross, 1958: 362-3. These interpreters find support for this claim in E. 2. 1026b22-4, where Aristotle says that of the accidental there is no 'generation and destruction' (γένεσις καὶ φθορά). This argument, however, as it stands, faces a number of serious difficulties; see Tweedale, 1997: 7; Williams, 1986: 184-192.

to accept this assertion then everything will be of necessity. And, my proposal is that the presence of 'for' (γὰρ) at 1027a33 is to be understood as the signpost for a forthcoming argument which has a specific aim: to explain in detail how failure to accept the claim of 1027a29-30 leads to the (presumably untenable) conclusion that everything will be of necessity. In the next part of the paper, I will turn to the analysis of this argument.

## IV. *Aristotle on causal determinism*:

The piece of text we will need to consider here reads as follows:

> **[1027a32/33]** For will *this* be or not? It will be if *this* comes to be, but not otherwise. **[34]** And that will come to be if something else does. Thus, it is clear that as time is constantly subtracted **[1027b1]** from a limited period of time, one will come to the present. This man, then, will **[2]** die by violence, *if* he goes out; and he will do this if he gets thirsty; **[3]** and he will get thirsty if something else happens. In this way we will come to what holds good now, or to **[4]** something that has come to be. For example, the man will go out, if he gets thirsty, and he will get thirsty, if he is eating something **[5]** spicy, and this either obtains or does not. Thus, it is of necessity that he will die **[6]** or not die. Likewise, if one jumps over to **[7/8]** what has come to be, the same argument applies. For that - I mean what has come to be - is already a **[8]** constituent of something. So everything that will be **[9]** will be of necessity (ἐξ ἀνάγκης ἄρα πάντα ἔσται τὰ ἐσόμενα), like the death of what is alive. For something has already come to be (ἤδη γὰρ τι γέγονεν); **[10]** for example, opposite qualities in the same thing. But whether the man will die by disease or by violence is **[11]** not yet [necessary], but it will be if *this* comes to be (ἀλλ᾽ εἰ νόσῳ ἢ βίᾳ, οὔπω, ἀλλ᾽ ἐὰν τοδὶ γένηται). Hence, it is clear that it **[12]** runs back as far as some origin, but this no further to anything else (δῆλον ἄρα ὅτι μέχρι τινὸς βαδίζει ἀρχῆς, αὕτη δ᾽ οὐκέτι εἰς ἄλλο). And **[13]** the origin of whatever may chance will therefore be this, and **[13/14]** nothing else is the cause of its coming to be (ἔσται οὖν ἡ τοῦ ὁπότερ᾽ ἔτυχεν αὕτη, καὶ αἴτιον τῆς γενέσεως αὐτῆς ἄλλο οὐθέν).

The consensus among the interpreters is that what we have in this passage is a *reductio* argument against a certain form of determinism.[50] In the next few pages, I will explain what the various steps of this argument are.

In 1027a32-b8, Aristotle presents the position he wants to reject:

> (1) *Lines* 1027a32-b5: Take any future event ***E*n** you like. It seems that we can construct a continuous causal chain which connects ***E*n** to a present event ***E*1**. Consider, for example, the case of this man here. Will this man die by violence? He will die by violence, if he goes out. And he will go out, if he gets thirsty. And finally, he will get thirsty, if he is now eating something spicy.
> (2) *Lines* 1027b5-10: If what was stated above is true, then causal determinism ensues. Why is this so? Presumably, a causal chain which begins from *any* arbitrarily selected future event ***E*n**, may be led all the way back to a present or past event ***E*1**. But both the present and the past are necessary.[51] Thus, given the necessity of the event in the present or past, *viz*. ***E*1**, it follows that 'everything that will be will be of necessity' (ἐξ ἀνάγκης πάντα ἔσται τὰ ἐσόμενα).

In short, it seems that in 1027a32-b10 Aristotle describes an argument for a certain form of causal determinism. To fully understand this argument, however, we will need to conduct a rather cursory discussion of the Stagirite's views on the accidental.

In *Met*. Δ. 30 and Ε. 2, Aristotle states that the accidental is that which happens 'neither always nor for the most part' (μήτ' ἀεὶ μήθ' ὡς ἐπὶ τὸ πολύ).[52] Furthermore, in *Met*. Δ. 30 the Stagirite claims that if a man digs a hole for a plant and in the process finds treasure, then the finding of the treasure is clearly an accident. To be more specific, he says that:

> This, *viz*. the finding of treasure, happens by accident to the man who digs the hole; for neither does the one come of necessity from the other or after the other, nor, if a man plants, does he for the most part find treasure (τοῦτο τοίνυν συμβεβηκὸς τῷ ὀρύττοντι τὸν βόθρον, τὸ εὑρεῖν

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[50] See, for example, Frede, 1985: 219, Gaskin, 1995: esp. pp. 201*ff*, Tweedale, 1997, and Williams, 1986: 183.

[51] The textual evidence seems to suggest that Aristotle regards the present and the past to be necessary because they are irrevocable. For a list of passages which appear to support this claim, see Sorabji, 1980: 8. See also the discussion in chapter 2.

[52] *Met*. Ε. 2. 1026b32, and *Met*. Δ. 30. 1025a14-15. See also *Phys*. Β. 5. 196b10-13.

> θησαυρόν· οὔτε γὰρ ἐξ ἀνάγκης τοῦτο ἐκ τούτου ἢ μετὰ τοῦτο, οὔθ' ὡς ἐπὶ τὸ πολὺ ἄν τις φυτεύῃ θησαυρὸν εὑρίσκει).
>
> (*Met.* E. 2. 102516-9)

What I think is important to note here is that the material in this passage, along with the fact that for Aristotle the category of 'necessary' (ἐξ ἀνάγκης) comings-to-be overlaps with the category of things that happen 'always' (ἀεί)[53], warrant the following conclusions:

> (i) If $E$ is the cause of $E_1$, and $E$ is such that it does not always or usually produce $E_1$, then $E_1$ may be said to be an accident.
>
> (ii) If $E$ is the cause of $E_1$, and $E$ is such that it always produces $E_1$, then $E_1$ occurs of necessity (or always).
>
> (iii) If $E$ is the cause of $E_1$, and $E$ is such that it usually produces $E_1$, then $E_1$ may be said to occur for the most part.

Furthermore, what we may distil from (i)-(iii) is that Aristotle's position on accidental and non-accidental causation is this. A cause $E$ may be said to be the non-accidental cause of $E_1$, just in case $E$ is such that it always or usually produces $E_1$. And a cause $E$ may be said to be the accidental cause of $E_1$, just in case $E$ is such that it rarely produces $E_1$.[54]

The next thing we need to consider is the way Aristotle construes the relation between accidental and non-accidental comings-to-be. There are a number of places where the Stagirite states that it is abundantly clear that there are: (a) some entities which are always/of necessity in the same state, and (b) some events which come to be of necessity/always.[55] What we also need to note at this point is that in E. 2 he claims that:

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[53] See, for example, *Met.* E. 2. 1026b27*ff*.

[54] This is certainly not an exhaustive discussion of Aristotle's views on accidental and non-accidental causation. In *Met.* E. 2 (1026b27*ff*), Aristotle goes on to argue to the effect that: $x$ may be said to be the non-accidental cause of $y$, if and only if $x$ as such causes $y$ as such. See, also *Met.* Δ. 30, and *Phys.* B. 4-6. These issues, however, need not concern us here. For a more comprehensive discussion of Aristotle's distinction between accidental and non-accidental causation, see Gaskin, 1995: 196-201. See also Freeland, 1991: 66-70, Judson, 1991, and Sorabji, 1980: 5-6.

> ... since not everything is of necessity and always a thing-that-is or a thing coming to be, most things being so for the most part, it is necessary that there be that which is accidentally (ἐπεὶ οὐ πάντα ἐστὶν ἐξ ἀνάγκης καὶ ἀεὶ ἢ ὄντα ἢ γιγνόμενα, ἀλλὰ τὰ πλεῖστα ὡς ἐπὶ τὸ πολύ, ἀνάγκη εἶναι τὸ κατὰ συμβεβηκὸς ὄν).[56]

Apparently, what Aristotle is trying to say here is this. It is obvious, presumably from the evidence of the senses, that most things do not happen of necessity/always, but for the most part. The question that remains to be addressed, of course, is that of how this much makes it necessary that there exist comings-to-be which are accidental. The Stagirite answers this question for us at the end of E. 2.[57] He tells us that the reason we have to admit that it is only for the most part that honey-water benefits fever patients is the simple fact that there are observed exceptions to the rule. That is, there are some (exceptional) circumstances, which cannot be determined in advance, where the dispensing of honey-water fails to benefit fever patients. The exceptions to the rule, the cases where the dispensing of honey-water brings about something other than the curing of the fever patients, are deemed to be accidents. In other words, it seems that Aristotle's position on the relation between the for the most part and accidental events is this. If there were no accidental events whatsoever, then there would not be any exceptions to the rule. For instance, if there were no instances where the dispensing of honey-water fails to bring about the curing of fever patients, then it would follow that it is necessarily/always the case that honey-water cures fever patients. That is to say, if there were no accidents, then everything would be of necessity. But, Aristotle tells us, it is undeniably true that not everything comes to be of necessity. There are many (observed) cases where we get exceptions to the rule. Hence, it follows that there are indeed events which are accidental.

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[55] See, for example, *Met.* Δ. 30, and E. 2. 1026b27-9, 1027a8-9. The wording in these passages clearly indicates that what Aristotle has in mind are the entities and comings-to-be he considers in *De Generatione et Corruptione* (*GC*) B. 11: (a) the entities in the realm of the non-transient things, (b) the events which involve individuals in the realm of non-transient things, and (c) the comings-to-be which involve the species in the realm of transient things. I will come back to this issue in chapter 5.

[56] *Met.* E. 2. 1027a8-11. Kirwan's translation, slightly modified; see Kirwan, 1993: 70.

[57] What follows is an analysis of *Met.* 1027a22-26.

Time now to return to 1027a32-b10. In our initial analysis of this passage, we saw that the determinist's argument goes like this: (a) take an arbitrarily chosen future event ***E*n**; (b) we can readily construct a continuous causal chain which connects ***E*n** to a past or present event ***E*1**; (c) both the past and present are necessary; (d) therefore, it follows that what will happen, *viz*. ***E*n**, will happen of necessity. Apparently, the determinist's view is that the future is determined, because the necessity of the past/present is transferred down the causal chain and to the future event. But if the determinist is to be allowed to make this claim, then he needs to assume that every connection in the causal chain is also necessary. In other words, he needs to assume that every cause in this chain is such that it produces its effect of necessity. If he fails to make this further claim, then he cannot assert that the necessity of ***E*1** gets transferred to ***E*n** without committing a modal fallacy. And given the statement of 1027a31-2, I think it is reasonable to assume that

Aristotle takes it that this is an omitted premise in the determinist's argument. That is to say, it is plausible to assume that the Stagirite takes it that premiss (b) in the argument outlined above is meant to be qualified as follows: 'we can readily construct a continuous chain of non-accidental causes, *viz.* causes that produce their effects of necessity, which leads from ***E*n** to ***E*1**'.

What remains to be seen, of course, is how Aristotle responds to the determinist's argument:

> (3) *Lines* 1027b8-14[58]: It is certainly true that there are things which will happen of necessity. For example, it is necessary that a living thing will eventually die. However, the manner in which a creature will die is not yet (οὔπω) determined. This becomes determined when certain conditions are fulfilled (ἐὰν τοδὶ γένηται). What this indicates is that the determinist's causal chain can be traced back only to a certain point and no further (δῆλον ὅτι μέχρι τινὸς βαδίζει ἀρχῆς, αὕτη δ' οὐκέτι εἰς ἄλλο). That is, there is a certain event which stops this chain of non-accidental causes from reaching the present or the past. This event is the cause which renders the final (future) event accidental (ἔσται οὖν ἡ τοῦ ὁπότερ ' ἔτυχεν αὔτη). And apparently, there is no further non-accidental cause for this end-stopping event (αἴτιον τῆς γενέσεως αὐτῆς ἄλλο οὐθέν).[59]

To spell things out a bit, it seems that Aristotle's position is something along these lines. We should certainly concede that some future events are (now) determined. For example, that this man here will eventually die is now determined. According to the Stagirite, however, it should also be plainly clear that there are some future events which are not yet determined. To continue with his own example, whether this man will die by disease or violence is not yet determined (1027a10-11). What this shows, Aristotle tells us, is that there are chains of non-accidental causes which start from a future event $E_n$, but which cannot be led all the way back to the past or the present (1027a11-12). What is it that prevents the necessity of $E_1$, the present event in a causal chain $C$, from reaching the future event $E_n$? Aristotle's response is that $C$ contains a cause $E_x$ which stops the chain of non-accidental causation from reaching the past or present, and thus renders $E_n$ an accidental event (1027a11-14).

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[58] The following reconstruction of 1027b8-14 is based on the one suggested by Gaskin; see Gaskin, 1995: 201-2.

[59] We have already seen that Williams' view is that the claim in 1027b13-4 is that the end-stopping event has no further cause whatsoever. [For a similar view, see Sorabji, 1980: esp. pp. 8-10.] As it has already been noted, however, the evidence from *Phys.* B. 5 clearly contradicts such an interpretation. We will also see that the illustrative case described in 1027a32-b5, indicates that we may read 1027b13-4 *not* as saying that the end-stopping event is an uncaused cause, but as saying that it lucks a non-accidental cause.

Naturally, the issue we have to address here is this: 'How *exactly* we are to understand this last claim?'. Aristotle agrees with the determinist that: if we can construct a continuous chain of non-accidental causes which may be led *from* any arbitrarily chosen future event $E_n$ *to* a past/present event $E_1$, then, given the necessity of $E_1$ *and* the necessity of every causal step in the chain, it follows that it is now necessary that $E_n$ will come about. In other words, the Stagirite concedes that if *every* causal chain is like the one just described, *viz.* if *every* causal chain is made up exclusively of non-accidental causes, then causal determinism ensues. The underlying assumption in his response to this position is that it ought to be evident that not all future events are now determined. As we have seen, in E. 2 he argues that it is demonstrably false to say that: every cause $E$ is such that it always/of necessity brings about a fixed effect $E_1$; apparently, most causes are such that, in certain circumstances, may bring about an unexpected/accidental effect. What is most relevant in the context of E. 3, however, is a different point which we see being repeated time and again. There are a number of texts, including *Met.* E, where Aristotle states that when it comes to entities which have matter that is 'capable of being otherwise than as it for the most part is', e.g. entities such as cloaks and human beings, it is plainly a mistake to say that their future is now fixed.[60] Given that he takes this much to be a fact, it is not surprising that he finds the determinist's thesis to be untenable. The determinist argument, though, is useful in the sense that it offers the opportunity to give a proof for the existence of causes which are accidental events. Thus, in E. 3 we see Aristotle reasoning as follows. It is evident that (at least) some future events are not now determined; they happen by chance/accidentally.[61] If the future event ***En*** in a backward-stretching causal chain ***C*** is to count as accidental, then a certain condition needs to be satisfied. The chain of causation from ***En*** to the past/present must not be made up exclusively of non-accidental causes.[62] That is, ***En*** must be part of a series of non-accidental causes which reaches a certain point, other than the past or present, where we get a cause which does not have a non-accidental cause of its own; *viz.* a cause which is an accidental event. Such a break in the chain of non-accidental causation, would mean that although ***C*** may extend all the way back to the past/present, the necessity of the past or present cannot be transferred to **$E_n$**. Thus, the final future event in ***C***, *viz.* **$E_n$**, may be deemed to be an accident.

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[60] See, *Met.* E. 2. 1027a13-14. See also *GC* B. 11 (esp. 337b3-9, 338b5*ff*) and *Met.* Θ. 9. 1050b22-28. Aristotle does not justify this claim here, or in the other text where it plays a decisive role; namely, in *De Interpretatione* (*DI*) 9. I discuss this issue in chapter 5. For a discussion of *DI*. 9, see chapter 2.
[61] See *Met.* E. 3. 1027b12-13.
[62] What we have to keep in mind here is that the determinist's position requires that the causes in such a chain need to be non-accidental, in the sense that they produce their effects of necessity.

To complete the discussion in this part of the paper, we need to figure out how we are to reconstruct the illustrative case described in 1027a32-b5; *viz.* the case which is supposed to show us, in practice, how we may stop the determinist's causal chain from reaching the past/present.[63] Is it necessary that this man here, let us call him Nicostratus, will meet a violent end? According to the determinist, every causal chain is made up exclusively of non-accidental causes. Thus, he continues to reason, since we can trace a continuous chain of non-accidental causes *from* the future event, *viz.* the death of Nicostratus at the hands of his enemies, *to* a present event, then it follows that the future event is now determined. In more detail, he holds that it is determined that Nicostratus will die a violent death, because we can construct a continuous chain of non-accidental causes as follows:

(***E*4**) Nicostratus gets killed by his enemies (who happen to be at the well).

↕

(***E*3**) Nicostratus goes to the well.

↕

(***E*2**) Nicostratus gets thirsty.

↕

(***E*1**) Nicostratus is *now* eating spicy food.

How are we to establish, *contra* determinism, that ***E*4** is an accidental future event? As Aristotle tells us, we must show that there is an event in this chain which does *not* have a non-accidental cause. And my suggestion is that he would reconstruct the Nicostratus case as follows:

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[63] Note that Aristotle does not quite spell out his intended construal for the case of 1027a32-b5. It is also suspected that in this passage, Aristotle has in mind an actual historical example concerning one Nicostratus who left a besieged city to get a drink of water at a well, and was there surprised by the enemy, who killed him. For further details on this point, see Gaskin, 1995: 202.

**Event 5**: The enemies kill Nicostratus.

↕

**Event 3**: Nicostratus goes to the well. + **Event 4**: Nicostratus meets his enemies, who happen to be at the well.

↕

**Event 2**: Nicostratus gets thirsty.

↕

**Event 1**: Nicostratus is (now) eating some kind of spicy food.

The event Aristotlē wants to construe as an accidental future event is (5). Now, to prove it to be an accidental event he needs to show that the chain of causation from (5) to (1) is not a continuous chain of non-accidental causes. How is he going to do this? Well, the story is not that complicated. What is the cause of Nicostratus' violent death (*viz.* event (5))? Apparently, it is event (4): Nicostratus' meeting with the enemy. Is (4) an accidental cause of (5)? We can safely assume that back then, when Aristotle was writing E. 3, it was the case that if you were to meet your mortal enemies at the well, then invariably something bad would happen to you. So, (4) may be said to be the non-accidental cause of (5). But what about (4)? Is it the case that (4) has a non-accidental cause of its own? Apparently not. (4) is an event which is coincidental with (3); *viz.* going to the well. (2), however, cannot be said to be the non-accidental cause of (4); *viz*. one's getting thirsty is not always followed by a meeting with one's enemies. To be more specific, this is very much like the case of the cook Aristotle mentions at E. 2. 1027a2-5. The cook may be said to be the accidental cause of health. Why? Because the cook non-accidentally produces a great meal, and this meal is accidentally combined with a healthy effect. So, it turns out that we may lead event (5) back to an event (4), where (4) is the non-accidental cause of (5). However, the chain of non-accidental causation cannot be led back to the present; *viz*. event (1). Why is this so? Because (4) does not have a non-accidental cause of its own. In other words, (4) is an accidental event. And this much, Aristotle seems to be saying, is sufficient to show that (5) is not now necessitated. That is, if the determinist is to have his conclusion, then every link in the chain from (5) to (1) has to be a necessary one. It seems, though, that (4) is not linked by necessity to its cause; namely, (2). Therefore, the necessity of (1) cannot be passed down to (5).

If my reconstruction of the argument in 1027a32-b14 is accepted, then we can readily see the connection between this piece of the text and the material in 1027a29-32. Under the reading proposed here, in 1027a32-b14 Aristotle develops the argument he sketches out at 1027a30-32. That is, he fleshes out the argument for the assertion made at 1027a29-30: the assertion that there are causes which are accidental events. Very briefly, he reasons as follows. If we accept that all causes are non-accidental events, then we will have to assent to causal determinism. In other words, we will have to accept that every future event is now necessitated. But clearly this is not the case. Putatively, the future is not fixed for things which have matter capable of opposites. What this means is that the determinist ought to be mistaken about the nature of causal chains. Apparently, there are some causes which are accidental events; *viz.* they are events which have no non-accidental causes of their own. These are the causes which end-stop a chain of non-accidental causes, and thus prevent the necessity of the present/past from being transferred down to a future event. And as was just explained, the case of Nicostratus seems to illustrate this very point.

### V. ***On the expression*** ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι:

In part **III**, I suggested that, within the context of E. 3, we ought to adopt Bosley's reading of the verbal adjectives γεννητά and φθαρτά; *viz.* ***Reading* 2**. What seems to provide immediate support for this suggestion is the fact that the alternative, ***Reading* 1**, gives rise to serious difficulties. That is, if we retain Kirwan's reading of these two terms, then, given the fact that the most natural translation for 1027a30 is 'without going through a process of generation and destruction', we will be forced to accept that Aristotle's position is that there are causes which may be generated and destroyed instantaneously. As was noted earlier on, however, Kirwan himself concedes that it is not easy to see how the material in 1027a32*ff* may be construed as arguing for the existence of such causes. That is, it is not easy to see how 1027a32*ff* is intended to establish the thesis that there are causes which get generated (or destroyed) without going through a process of generation (or destruction). What is also important to note, is that the principle of charity dictates that, if possible, we should avoid saddling the Stagirite with such an evidently absurd claim.[64] In the remainder of this chapter, I will explain how Bosley's ***Reading 2*** gives us a way out of the difficulties that plague Kirwan's reconstruction of 1027a29-30.

In *Phys*. B. 5, Aristotle attempts to show that a coming-to-be which is 'the outcome of luck' (ἀπὸ τύχης), *viz*. an event which is accidental, may serve as a cause.[65] The case he uses to illustrate his point is that of a creditor who gets to collect his money from his debtor, as a result of an accidental meeting at the market-place. In more detail, the story we get in *Phys*. B. 5 is this: suppose that the creditor, let us call him Critias, goes to the market-place in order to attend the afternoon performance of 'Lysistrata'; furthermore, suppose that the debtor, let us call him Cebes, happens to be at the market-place in order to collect some money; as a result, the two men get to meet, and Critias gets to collect the debt from Cebes. What we need to note here, is that Aristotle makes a number of interesting remarks about this case:

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[64] See, however, the discussion in Katayama, 1999: 35-36, 127.

[65] Strictly speaking, the discussion in *Phys*. B. 4-6 is about: (a) the distinction between those events which are 'the outcome of luck' (ἀπὸ τύχης), and those which are 'an automatic outcome' (ἀπὸ ταὐτομάτου), and (b) how such events may be said to have causal power. What suffices to note here, though, is that Aristotle considers luck and the automatic to be species of the accidental; see, for example, *Phys*. B. 5. 196b17-29, B. 6. 198a1-13. For a discussion of *Phys*. B. 4-6, see Charlton, 1970: 105-111.

> (1) Critias' meeting with Cebes at the market-place is the outcome of luck. That is to say, it is an accidental coming-to-be.[66]
>
> (2) The reason this is an accidental coming-to-be, is that:
>
> > 'The end, the recovery of the debt, is not one of the causes in him ... And in this case the man's coming is said to be the outcome of luck, whereas if he had chosen and come for this purpose, or used to come always or for the most part, it would not be called the outcome of luck' (ἔστι δὲ τὸ τέλος, ἡ κομιδή, οὐ τῶν ἐν αὐτῷ αἰτίων ... εἰ δὲ προελόμενος καὶ τούτου ἕνεκα, ἢ ἀεὶ φοιτῶν ἢ ὡς ἐπὶ τὸ πολὺ κομιζόμενος, οὐκ ἀπὸ τύχης).[67]
>
> In short, the meeting with the debtor at the market-place is an accidental event because Critias did not, and does not usually or for the most part, go to the market-place for the purpose of meeting Cebes.
>
> (3) Clearly, Critias' meeting with Cebes is the cause of the collection of the debt. It ought to be noted, though, that the cause of the (accidental) meeting could have been a number of different things; e.g. Critias' decision to go to the market-place to litigate as a plaintiff or defendant, or Critias' decision to go to the market-place in order to meet someone.[68]

In other words, what Aristotle is trying to say in *Phys*. B. 5 is this. Suppose that Critias' desire to attend the afternoon performance of 'Lysistrata' causes him to go to the market-place. Furthermore, suppose that Cebes happens to be at the market-place for the purpose of collecting some money. According to the Stagirite, Critias' going to the market-place is 'concurrent' (συμβεβηκός) with another event; namely, Critias' meeting with his debtor Cebes.[69,70] This second (concurrent) event, is, Aristotle tells us, an accidental event. And, it is this event which brings about the collection of the debt.[71]

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[66] See *Phys*. B. 5. 197a12*ff*. See also fn. 65.

[67] *Phys*. B. 5. 197a1-5. W. Charlton's translation; see Charlton, 1970: 34.

[68] See *Phys*. B. 5. 197a14*ff*.

[69] The translation of the terms συμβεβηκός/κατὰ συμβεβηκός in the context of *Phys*. B. 5 is not a straightforward matter. To make good sense of the text we have to alternate between the renderings 'accidental/accidentally' and 'concurrent/concurrently'. In fact, this is the case in other contexts as well. This, however, is a problem which need not concern us here, as it is clear that, for Aristotle, a concurrent event is also an accidental event; see *Phys*. B. 5, and esp. 196b29*ff*. For a useful discussion of this point, see Sorabji, 1980: ch. 1, and esp. pp. 4-6.

[70] In fact, the meeting is also concurrent with Cebes' going to the market-place. For our present purposes, however, we need only consider one of the (two) causal chains involved in the case described in the text.

There are two things we need to notice at this point. First, *Phys.* B. 5 provides us with something that is sorely missing from E. 3: a treatment of the nature of causes which are accidental events. And second, the material in *Phys.* B. 5 clearly indicates why Aristotle thinks that an event such as Critias' meeting with Cebes is accidental. As we have just seen, the Stagirite's view is this. Given the fact that Critias did not go to the market-place for the purpose of finding Cebes, the meeting ought to be declared accidental. In other words, it seems that Aristotle's view is that the meeting at the market-place is accidental, because it was not brought about by the relevant cause; namely, Critias' decision to take (specific) action towards collecting the debt.

What I would like to submit here is that the material in *Phys.* B. 5 provides us with the key to deciphering the expression ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι in E. 3. To be more specific, I think that in *Phys.* B. 5, as in E. 3, Aristotle's concern is with events which involve rational activity. That is to say, his concern is with comings-to-be which are the outcome of the rational activity of men.[72] As Aristotle notes in *Phys.* B. 5, Critias may have the desire to attend a performance of 'Lysistrata'. In this case, Critias' going to the market-place is a non-accidental event; it has come about as a result of his decision to attend the performance of a certain play. Consider now the situation where Critias goes to the market-place hoping to see a play, and by doing so he gets to meet Cebes who also happens to be there. In this situation, Critias' going to the market-place is combined accidentally with his meeting the debtor, who happens to be at the market-place in order to collect some money. According to Aristotle, Critias' meeting with Cebes is an accidental event. In particular, he takes it that this is an event which is concurrent with Critias' going to the market-place. What is it that makes the concurrent event an accidental event? The Stagirite is quite clear on this point. It is an accidental event because it was not brought about by the relevant cause; namely, Critias' decision to take action towards collecting the debt. Rather, going to the market-place has been brought about by his desire to see a play, and the going to the market-place just happened to be combined with meeting the debtor. The question which remains to be answered, of course, is why Aristotle would want to describe an accidental event as something which can generate (or destroy) 'without going through a process of generation and destruction'/*ἄνευ* τοῦ γίγνεσθαι καὶ φθείρεσθαι.

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[71] Given the material in *Met.* E. 3, it would seem that, for Aristotle, the collecting of the debt is also an accidental event. [What is badly missing from the recent literature is some account of the connection between *Met.* E. 2-3, and *Phys.* B. 4-6. The discussion in this part of the paper indicates *some* of the connections between these texts. It does not, however, offer anything resembling an exhaustive treatment of this subject. This is a project in itself, and it will have to await another opportunity.]

[72] It ought to be clear enough that the case of Nicostratus is one where events come to be as the result of rational activity. For example, Nicostratus' going to the well is the outcome of his decision to satisfy his thirst.

To answer the question just posed, all we need to do is take a closer look at Aristotle's account of accidental causation in *Phys.* B. In *Phys.* B. 5, the Stagirite tells us that a cause which is an accidental event is not the product of a relevant cause. Take for instance the case of Critias. Critias' meeting with Cebes is not the outcome of a conscious decision to go to the market-place in order to find the debtor, and ultimately collect the debt. As Aristotle *explicitly* states, if it was the case that Critias went to the market-place for the purpose of finding Cebes, then the meeting would be a non-accidental event. Rather, Critias' going to the market-place is caused by his desire to see a play. And, this event along with the (additional) fact that Cebes is also at the market-place, for a purpose other than meeting his creditor, bring it about that Critias gets to encounter his debtor. What we need to note at this point is that Critias' meeting with Cebes is, so to speak, the by-product of two distinct causal processes. That is, Critias' decision to go to the theatre and Cebes' decision to go the market-place to collect some money bring about two distinct events: Critias' going to the market-place, and Cebes' going to the market-place. The coming to be of these two events, is automatically combined with a third event, namely, the meeting of the two men. What it is imperative to understand here, is that this third concurrent event is not the product of any end-directed process. It is not brought about by a conscious decision made by Critias, or, for that matter, by a decision made by Cebes. That is to say, Critias' meeting with Cebes is not generated by the former's decision to go to the market-place in order to find the latter. Neither is it the case that the meeting is generated by Cebes' decision to go to the market-place with the purpose of meeting his creditor. As was just noted, the meeting at the market-place is the by-product of two different end-directed causal processes. And, it is for this reason, I would like to submit, that Aristotle feels entitled to describe such events as capable of capable of generating and destroying ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι. In other words, the Stagirite's thesis seems to be this. The accidental event can generate and destroy in the sense that it has causal power; *viz.* it brings about the collection of the debt. And the accidental event may be said to be able to generate and destroy *without going through a process of generation and destruction*, in the sense that it is not the product of *any one* causal process. More specifically, the accidental event is a coming-to-be which is spontaneously produced when two distinct, but appropriately related, causal processes intersect each other.

To sum up, it seems to me that Bosley's ***Reading 2***, along with the material in *Phys*. B. 5, give us the solution to the puzzle of 1027a29-30. As was explained above, if we adopt this reading of γεννητά and φθαρτά, then we don't have to accept that Aristotle advocates the absurd position that something may get generated (or destroyed), without being generated (or destroyed). Furthermore, by considering the material in *Phys*. B. 5, we can see the rationale behind Aristotle's description of those causes which are accidental events. Apparently, these kind of causes have the power to bring about certain other events. For example, the accidental meeting in the market-place can bring about the collection of the debt. At the same time, however, an accidental event cannot be said to be the product of a generative process. As was explained above, those causes which are accidental events are not brought about by any one causal process. In short, it seems that if the story recounted here is accepted, then we may make good sense out of 1027a29-30. Furthermore, if we accept that in 1027a32*ff* Aristotle does not attempt to justify his description of those causes which are accidents, then we we may reap another interpretive benefit. That is, if we accept that 1027a32*ff* is simply intended to establish the existence of those causes which are accidental events, and that the Stagirite takes it that the description of 1027a29-30 is adequately justified elsewhere, *viz.* in the earlier work of *Phys.* B. 5, then we can readily see that there is no incongruity between the opening sentence of E. 3 and the rest of the material in the chapter.

# CHAPTER 2

## *Aristotle on the Problem of Logical Fatalism*

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### I. *Introduction*:

The consensus among the modern interpreters is that in *DI.* 9 Aristotle considers and rebuts two arguments for *logical fatalism*: the thesis that the truth of a statement '*Fp*', where this is a statement bearing on the future[1], entails that there is nothing one can do to affect the obtaining or otherwise of the relevant state of affairs.[2] As is well known, however, this is the point where the general agreement ends. One need only take a casual look at the recent literature to see that there is an enormous diversity of opinions when it comes to the key questions concerning *DI.* 9: 'What

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[1] In this paper I will take it that: (a) '*Fp*' stands for the sentence/statement 'It will be the case that *p*', and (b) '~*Fp*' stands for the sentence/statement 'It will not be the case that *p*'. See also fn. 2.

[2] The accepted view is that in *DI.*, and esp. in chs 1-5, Aristotle fails to present a satisfactory theory of language; see, for instance, Ackrill, 1966: esp. pp. 113-115. I think it is a mistake to approach *DI.* 1-5 with the expectation of finding in it a theory of language/meaning which (roughly) anticipates any particular modern theory in this field. It is not my intention, however, to pursue these issues here; this would take us too far afield. What is sufficient to note for our present purposes are the following related points: (a) it is not clear that Aristotle ever made the modern distinction between sentences/statements and propositions [see *DI.* 1, esp. 16a3-4 and 16a9-11], (b) the Stagirite maintains that both 'statement-making sentences' (λόγοι ἀποφαντικοί) and 'thoughts in the mind' (*ἐν τῇ ψυχῇ νοήματα*) are truth bearers [see *DI.* 1. 16a9*ff*, 4. 16b33*ff*], and (c) despite (a) and (b), it is fair to say that Aristotle would not object to the claim that, for example, the sentence/statement 'Socrates is pale' is used to assert that Socrates is pale [see, e.g., *DI.* 4, 5, 7. 17b16*ff* ]. See also the discussion in part **III**.

*exactly* is the structure of the fatalist's argument(s) in *DI.* 9?', 'What is the Stagirite's response to these arguments?'.

As R. Gaskin has recently shown, there are (at least) four different *kinds* of answer to the questions just posed[3]:

(1) ***The Anti-Realist Interpretation*** (**AR**)[4]: The advocates of this interpretation maintain that what is at play in *DI.* 9 are two familiar principles:

(i) The Law of Excluded Middle (***LEM***): (as a matter of logical necessity) '*p* or not-*p*' holds for any substitution into the position occupied by the letter '*p*'.

(ii) The Principle of Bivalence (***PB***): it is necessary that every meaningful, assertoric statement is either true or false.

How do these two principles feature in the context of *DI.* 9? Very briefly, the proponents of **AR** answer this question as follows. In *DI.* 9, the fatalist infers the necessity of a statement about a purported future contingency, a **FCS**, from its truth. Putatively, Aristotle accepts this inference but avoids necessitarianism by claiming that: where '*Fp*' is a statement about a purported future contingency, *viz.* a **FCS**, ***LEM*** holds whereas ***PB*** fails. In other words, the suggestion is that the Stagirite maintains that whereas '*Fp* or ~*Fp*' holds for any future statement '*Fp*', '*Fp*' cannot be said to be (*already*) true or false.[5]

(2) ***The Realist Interpretation*** (**R**)[6]: According to this interpretation, Aristotle does not restrict either ***PB*** or ***LEM***. Rather, he rebuts fatalism by distinguishing between the truth/falsity of a future statement and its necessity, allowing the former but refusing the latter. To be more specific, the proponents of **R** claim that Aristotle blocks fatalism by banning the inference from the necessity of ***LEM*** to the several necessities of the disjuncts.

(3) ***The Statistical Interpretation*** (**S**)[7]: This interpretation presupposes the results of **R**. It goes on to add, however, that in *DI.* 9 Aristotle deals not with temporally definite sentences, but with temporally indefinite ones. More specifically, the advocates of **S** maintain that Aristotle responds to the fatalist by pointing out that a temporally indefinite

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[3] The labeling and abbreviations given below are the ones suggested by Gaskin; see Gaskin, 1995: 12-17. For a similar classification of the various interpretations proposed for *DI.* 9, see Whitaker, 1996: 129-131.

[4] Versions of **AR** are defended by Kneale & Kneale, 1962: 45-54, Ross, 1924: vol. I, p. lxxxi, and Sorabji, 1980: ch. 5. This interpretation is also cautiously endorsed by Ackrill; see Ackrill, 1963: esp. pp. 137-142. For a complete list of the most recent advocates of this interpretation, see Gaskin, 1995: 12, fn. 1.

[5] Apparently, this is a claim that has been ridiculed at least since Cicero. In the recent literature, it has attracted the criticisms of W.V.O. Quine who has labeled it 'Aristotle's Fantasy'; see Quine, 1966: 21.

[6] Versions of **R** can be found in Anscombe, 1967, and Strang, 1960. For other advocates of this interpretation, see the references in Gaskin, 1995: 14, fn. 5.

[7] The most prominent advocate of **S** is J. Hintikka; see Hintikka, 1973: ch. 8. For other versions of **S**, see Bosley, 1977, and Fine, 1984.

> sentence, such as 'There will be a sea battle tomorrow', is contingent in the sense that it is sometimes true, and sometimes false.[8]
>
> (4) *The Commentators' Interpretation* (**C**)[9]: The advocates of this interpretation are in agreement with **AR**, with the exception of one important detail. They claim that Aristotle does *not* deny ***PB*** with respect to future statements. Their position is that the Stagirite *adapts* this principle in the sense that he asserts that a **FCS**, such as '*Fp*', is either true or false, but it is not definitely one or the other.

The question that remains to be answered, of course, is this: 'Which one of the above gives us an exegetically correct account of *DI*. 9?'.

What I propose to do in this chapter is to defend a reading of *DI*. 9 which is more or less in line with **C**. It is also my intention, however, to show that the standard versions of **C**, *and* **AR**, give us what is (at best) an incomplete account of what goes on in *DI*. 9. To anticipate briefly, I will argue for two related points. First, the crux of **C** and **AR** is the claim that in *DI*. 9 Aristotle denies or adapts ***PB*** with respect to future singular statements.[10] The critics point out, though, that the textual evidence indicates that there is no point in *DI*. 9 where the Stagirite questions the universal applicability of ***PB***.[11] What I would like to suggest here is that what lends credibility to this objection is the failure of the proponents of **C** and **AR** to put *DI*. 9 in context. More precisely, I would like to suggest that if we treat this chapter as part of the wider discussion of contradiction initiated in *DI*. 6, then the critics' objection may be shown to be innocuous. The second point I want to defend concerns the nature of Aristotle's response to the fatalist. In 19a18-22, the Stagirite brings up his familiar threefold distinction between: (a) the things which happen 'of necessity' (ἐξ ἀνάγκης), (b) the things which happen 'for the most part' (ὡς ἐπὶ τὸ πολύ), and (c) the things which happen 'by chance' (ὁπότερ ' ἔτυχε).[12] The standard versions of **AR** and **C** have it that this distinction is irrelevant to the argument *contra* fatalism presented in 19a7*ff*.[13] I intend to show, however, that this distinction is at the very core of the Stagirite's response to the threat of fatalism.[14]

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[8] The assumption made here by Hintikka (and his followers) is that necessity is to be construed as truth at all times. See Hintikka, 1973: e.g. p. 151.

[9] According to Gaskin, who espouses **C**, this interpretation is essentially the one found in the commentaries on *DI*. 9 by Ammonius and Boethius; see Gaskin, 1995: 15-16. Hence the label the 'Commentators' Interpretation'. On how Gaskin defends this claim, see Gaskin, 1995: ch. 12, esp. pp. 146-161.

At this point we should note that the issue of how Ammonius and Boethius interpret *DI*. 9 is itself a source of scholarly debate. On this debate see the essays in Kretzmann, 1998.

[10] See Gaskin, 1995: 18-19, and Kneale & Kneale, 1962: esp. pp. 47-48.

[11] See, for example, Whitaker, 1996: ch. 9, esp. pp. 109-112, 125-8, and van Rijen, 1989: 104-6. Whitaker's objection will be examined in some detail in part **VI**.

Before I proceed with the actual interpretation of *DI*. 9, I would like to make a note concerning the methodology I will employ in this chapter. My intention is to give an analysis of the text which is pretty much in the form of a running commentary. In this process I will consider a number of the views expressed in the secondary literature, but I will not present a comprehensive discussion of any of these positions. Relevant points will be brought up only as they are needed to support the reading of the text advanced here.[15]

## II. *The first difficulties*:

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[12] Aristotle makes this distinction in a number of places. See, for example, *Met*. Δ. 30, and Ε. 2. (1026b27*ff*). See also the discussion in chapter 1, esp. parts **III-IV**.

[13] See, for example, Ackrill, 1963: 136, and Gaskin, 1995: 37-8.

[14] A similar claim is made by Whitaker; see Whitaker, 1996: 120.

[15] A discussion of a sizable portion of the sea of secondary literature may be found in Gaskin, 1995: esp. chs 2-7, 12.

The interpretive difficulties with *DI.* 9, begin in the very first paragraph of the chapter. In 18a28-33, the Stagirite states that:

> **[18a28]** (1) With regard to things which are and those that have been it is necessary for either the affirmation **[a29]** or the negation to be true or false (ἐπὶ μὲν οὖν τῶν ὄντων καὶ γενομένων ἀνάγκη τὴν κατάφασιν ἢ τὴν ἀπόφασιν ἀληθῆ ἢ ψευδῆ εἶναι). (2) And with **[a30]** universals taken universally it is always the case that one is true and the other false (καὶ ἐπὶ μὲν τῶν καθόλου ὡς καθόλου ἀεὶ τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ εἶναι). **[a31]** (3) And so too in the case of particulars, as we have said. (4) But with **[a32]** universals not spoken universally it is not necessary. We have talked **[a33]** about these as well. (5) But with particulars which are going to be it is not the same (ἐπὶ δὲ τῶν καθ ' ἕκαστα καὶ μελλόντων οὐχ ὁμοίως).[16]

It is sufficiently clear that in the first sentence of this passage, (1), Aristotle says that a certain principle holds of statements which are concerned with what is and what has been. What seems to be also clear is that in the last sentence, (5), the Stagirite says that the principle in question does not apply (unqualifiedly) to future singular statements, *viz.* statements such as 'There will be a sea battle tomorrow', and 'Socrates will go to the market-place in the morning'. The issue that puzzles the interpreters is how we are supposed to read (1). Apparently, the rest of *DI.* 9 is given to a discussion of why future singulars violate the principle contained in (1). Hence, it transpires that if we are to make any progress with the interpretation of *DI.* 9, then we need to figure out what the principle is that Aristotle states in 18a28-9.

In the classic version of **R**, the assumption is that in (1) we have a deliberate ambiguity:

> What Aristotle says in this sentence is ambiguous; that this is deliberate can be seen by the contrast with the next sentence. The ambiguity between necessarily having a truth-value, and having a necessary truth value - is first sustained, and then resolved at the end of the chapter.

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[16] The translations from *DI* provided in this chapter are based on Ackrill's translation of the work; see Ackrill, 1963.

(Anscombe, 1967: 15-16)

To spell things out a bit, E. Anscombe's claim is that the opening sentence of *DI*. 9 is subject to two different readings:

> (1') It is necessary that: '*p*' (is true) or 'not-*p*' (is true).
>
> (1'') Either it is necessary that '*p*' (is true) or it is necessary that 'not-*p*' (is true).[17]

And the crux of her position is that (1) is phrased in such a way as to be deliberately ambiguous between (1') and (1'').[18] What is also important to note here is that after stating this much Anscombe goes on to make two more claims. First, she takes it that the purpose of *DI*. 9 is to clear up the ambiguity that (1) imports. And second, she claims that this ambiguity is finally cleared up at the end of the chapter; namely, at 19a23-36. In particular, she maintains that in this passage Aristotle does two things:

> (i) He makes the distinction between (1') and (1''), and he argues to the effect that what we have in *DI*. 9. 18a28-9 is a statement of (1''). In other words, he argues that 18a28-9 is meant to be read as follows:
>
> > Where '*p*' is a statement concerned with what is or what has been, we may assert that either it is necessary that '*p*' (is true), or it is necessary that 'not-*p*' (is true).
>
> (ii) He argues that the fatalist's argument fails, because it is based on the problematic assumption that (1'') holds in the case of future singular statements. In more detail, the Stagirite's argument is this. It is certainly the case that the principle "it is necessary that: either '*p*' (is true), or 'not-*p*' (is true)", *viz*. (1'), holds of *all* statements -- past, present, and future. It is also the case that where '*p*' is a statement concerned with what is or what has been, we may *divide* and say that either it is necessary that '*p*' (is true), or it is necessary that 'not-*p*' (is true). That is to say, (1'') holds of every '*p*' where this is a statement which bears on the past or the present. The fatalist, however, is wrong to assume that from (1') we may infer that either it is necessary that '*Fp*' (is true), or it is necessary that '~*Fp*' (is true). In other words, Aristotle's objection to fatalism is that in the case of future singular statements we cannot *divide*; that is, he maintains that (1') applies to such statements, but (1'') does not.[19]

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[17] What we need to keep in mind here is that in both (1') and (1''), '*p*' is taken to be a statement which is concerned with what is or what has been.

[18] This same claim is also found in Strang, 1960: 447, 460-1.

[19] For further details on (i) and (ii), see Anscombe, 1967: esp. pp. 23-25.

Finally, what we need to note at this point is that Anscombe's reading of (**1**) is also accepted by the advocates of **S**.[20]

Gaskin reports that the proponents of **C** and **AR** find (at least) one difficulty with this reconstruction of (**1**). As we have just seen, Ancombe's suggestion is that in 18a28-9 we have a deliberate ambiguity. According to Gaskin, however, this suggestion is problematic. Given that in 19a39-b4 Aristotle summarizes the results of the argument in 19a23-36, then it is rather strange that he 'again gives 'ἀνάγκη' a syntactically initial position, formulating the conclusion in an almost identical way to the introduction at 18a28*ff*' (Gaskin, 1995: 20). In other words, Gaskin's objection is this. In 18a28-9, ἀνάγκη has a syntactically initial position which suggests that it should be taken to have wide scope. Anscombe's proposal is that in 18a28-9 Aristotle imports a deliberate ambiguity. That is, he phrases (**1**) so that it may be read either as (**1'**) or (**1''**). She also adds to this that the ambiguity is cleared up at 19a23-36, where Aristotle *explicitly* makes the distinction between (**1'**) and (**1''**), and argues to the effect that (**1**) = (**1''**). What seems to pose a problem for this position is the fact that in 19a39-b4, where Aristotle summarizes the results of the discussion in *DI*. 9, he states the principle introduced in 18a28-9 in the allegedly ambiguous form of (**1**). Thus, if one is to maintain that the discussion in *DI*. 9 is aimed at disambiguating (**1**), then one will be hard pressed to explain why in his concluding remarks Aristotle states the principle in the same form it appears at 18a28-9.

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[20] See Hintikka, 1973: esp. pp. 164-169.

The objection outlined above is certainly one that the proponents of **R** (and **S**) need to address. The fact of the matter, however, is that it is not a knock-down criticism of their reading of (**1**).[21] Furthermore, it should be clear that this negative argument is not sufficient to establish the alternative suggestion found in **C** and **AR**, namely, the suggestion that in 18a28-29 we get a statement of ***PB***.[22] In the rest of this part of the chapter, I will present an argument which shows that: (a) to obtain the intended reading for (**1**) we need to place *DI*. 9 in context; in particular, we need to restore this chapter to its rightful place as part of the discussion of contradiction initiated in *DI*. 6, and (b) if this is done, then we can readily see that neither of the proposed readings for 18a28-9 is exegetically correct.

In *DI*. 6, Aristotle tells us that an '*affirmation* is a statement which asserts something of something' (κατάφασις δέ ἐστιν ἀπόφανσις τινὸς κατὰ τινός), whereas a '*negation* is a statement which asserts something away from something' (ἀπόφασις δέ ἐστιν ἀπόφανσίς τινὸς ἀπὸ τινός).[23] And after stating this much, he goes on to talk about '*contradiction*' (ἀντίφασις):

> **[17a26]** Now it is possible to **[27]** state of what does hold that it does not hold, of what does not **[28]** hold that it does hold, of what does hold that it does hold, and **[29]** of what does not hold that it does not hold. *Similarly for times outside* **[30]** *the present* (καὶ περὶ τοὺς ἐκτὸς τοῦ νῦν χρόνους ὡσαύτως). So it must be possible to deny **[31]** whatever anyone has affirmed, and to affirm whatever anyone has denied. Thus it is clear that **[32]** for every affirmation there is an opposite (ἀντικειμένη)

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[21] One response to this objection is to say that in 19a39-b4 Aristotle is being careless in the presentation of his concluding remarks. This response may sound unconvincing. Nevertheless, it would certainly be appealing to those who find it hard to accept that in *DI*. 9 Aristotle denies or adapts ***PB***. For some further comments relating to this last point, see the discussion in part **VI**.

[22] See Gaskin, 1995: e.g. pp. 19-23, and Kneale & Kneale, 1962: 47-48.

[23] *DI*. 6. 17a25-6.

> negation, and for every [33] negation an opposite (ἀντικειμένη) affirmation. *Let us call an affirmation and a negation* [34] *which are opposite a contradiction* (καὶ ἔστω ἀντίφασις τοῦτο, κατάφασις καὶ ἀπόφασις αἱ ἀντικείμεναι). *I speak of statements as opposite* [35] *when they affirm and deny the same thing of the same thing* (λέγω δὲ ἀντικεῖσθαι τὴν τοῦ αὐτοῦ κατὰ τοῦ αὐτοῦ) ... .[24]
>
> (*DI*. 6. 17a26-35)

Why is all this pertinent to the puzzle surrounding (**1**)? As we will soon see, the material in *DI*. 6 sets the stage for a discussion which begins in *DI*. 7 and culminates in *DI*. 9.

The first part of *DI*. 7, *viz*. 17a38-b26, is largely concerned with:

> (a) Defining two kinds of statements: statements which are about 'universals taken universally' (καθόλου ὡς καθόλου), and statements which are about 'universals not taken universally' (καθόλου μὴ καθόλου).[25]
>
> (b) Figuring out what kinds of statements may qualify as the contraries and contradictories of those two kinds of statements.[26]

What is imperative to note for our present purposes, though, is the material in 17b26-33. In this passage, Aristotle states that:

> [**17b26**] Of contradictory statements about a universal [**27**] taken universally it is necessary for one or the other to be true or false (ὅσαι μὲν οὖν ἀντιφάσεις τῶν καθόλου εἰσὶ καθόλου, ἀνάγκη τὴν ἑτέραν ἀληθῆ εἶναι ἢ ψευδῆ); similarly [**28**] if they are about particulars, e.g. 'Socrates is white' and 'Socrates [**29**] is not white'. But if they are about a universal not taken [**30**] universally it is not always the case that one is true and the other false (ὅσαι δὲ ἐπὶ τῶν καθόλου μέν, μὴ καθόλου δέ, οὐκ ἀεὶ ἡ μὲν ἀληθὴς ἡ δὲ ψευδής). For it is true to say at the same time [**31**] that a man is white and that a man is not [**32**] white, or that a man is noble and a man [**33**] is not noble. For if base, then not noble ... .

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[24] The italics are mine. As we will see, the italicized parts of this passage are relevant to the reconstruction of *DI*. 9. 18a28-33.

[25] For Aristotle, a statement which is about 'a universal taken universally' is a statement that makes a claim about every item of which a universal term can be truly predicated; e.g. 'Every man is white'. On the other hand, he holds that a statement about a 'universal not taken universally' is a statement which makes a claim about a universal, such as man, without adding that it holds of man universally; e.g. 'Man is white'. For a more detailed discussion of the nature of these two kinds of statements, see Whitaker, 1996: ch. 7, and esp. pp. 83-4, 91-4.

[26] For a useful discussion of the issues covered in *DI*. 7. 17a38-b26, see Whitaker, 1996: ch. 7.

Clearly, the statement in 17b26-7 bears a strong resemblance to the one we get in 18a28-9. The Stagirite's claim in the former passage is this: of a pair of contradictory statements, where these are statements about universals taken universally, one or the other is true or false. It appears that the obvious move to make here is to assert that in 17b26-7 the Stagirite claims that the principle found in 18a28-9 is applicable to statements which are about universals taken universally.[27] This much, of course, does not give us any immediate help with the question at hand: 'What *exactly* is the principle Aristotle states in these two passages?'.

C. Whitaker has recently argued that the principle we get in 17a26-7 and 18a28-9 is not any of the ones mentioned so far; *viz.* **(1')**, **(1")**, and ***PB***.[28] His position is that what we have in these two passages is a statement of what he calls the '*Rule of Contradictory Pairs*' (***RCP***): 'Of every contradictory pair, one member is true and the other false' (Whitaker, 1996: 79). What remains to be seen is how he argues for this claim.

As we have seen, in 18a28-9 Aristotle states that 'With regard to things which are and those that have been it is necessary for either the affirmation or the negation to be true or false'. Whitaker concedes that '... taken literally, this scarcely makes sense' (Whitaker, 1996: 113). On the face of it, it could be taken to be an abbreviation of ***RCP***, or an abbreviated form of ***PB***. Whitaker, however, goes on to claim that this issue can be settled through the context of the discussion in *DI*. 7-8 and *DI*. 9. 18a29-33.[29]

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[27] Obviously, in 18a28-9 the principle in question is said to hold of a wider class of statements; namely, the class of statements which bear on the past and the present.

[28] See Whitaker, 1996: chs. 6-9. Note that Whitaker does not explicitly mention the first two options. His arguments are directed against the ***PB*** option. These arguments, however, are equally effective against the claim that **(1)** is to be construed as **(1')** or **(1")**.

In *DI*. 7. 17b26-29, Aristotle makes the following point:

> There are statements which are about universals taken universally; e.g. 'Every man is white'. Where we have an antiphasis of such statements, it is *necessary that one or the other is true or false*. This is also the case where we get an antiphasis made up of statements which are about particulars; *viz*. an antiphasis such as 'Socrates is white' - 'Socrates is not white'.

Whitaker's position is that in this passage Aristotle gives us a clear statement of ***RCP***.[30] It seems to me, though, that this is the wrong assumption to make. I think it is fair to say that 17b26-29, when taken on its own, is as problematic as 18a28-9. After all, the phrasing of the principle in 17b26-7 is practically identical with the one we get in 18a28-9. Nevertheless, in the case of the former passage we get some helpful comments in 17b29*ff*. In 17b29-33, the Stagirite is clearly trying to bring out the point that there is an exception to the principle which was just said to be applicable to singular statements, and statements which are about universals taken universally. To be more specific, he claims that when it comes to an antiphasis such as 'Man is white' - 'Man is not white', *viz*. an antiphasis of statements which are about universals not taken universally, 'it is not always the case that one is true and the other false'. As the Stagirite goes on to add, in such an antiphasis it is possible for both statements to be true. In short, his claim at 17b29-33 is to the effect that although ***RCP*** applies to certain kinds of antiphases, *viz*. the ones mentioned in 17b26-9, it *does not* apply to those made up of statements which are about universals not taken universally.[31]

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[29] We will see how Whitaker argues for this claim in the next few paragraphs.
[30] See Whitaker, 1996: 92.

Given the above, it seems plausible to claim that what we get in 17b29*ff* amounts to an elucidation of the material in 17b26-9. Thus, it also appears plausible to assert, along with Whitaker, that: (a) in 17b26-9 Aristotle states that ***RCP*** holds of antiphases whose members are singular statements, or statements which are about universals taken universally, and (b) in 17b29*ff* the Stagirite asserts that there is an exception to ***RCP***, namely, pairs of contradictories where these are statements which are about universals not taken universally.

According to Whitaker, what is also important to note is that *DI*. 8 is given to a discussion of a second exception to ***RCP***.[32] In this chapter, Aristotle brings up the issue of assertions where we have one word which 'stands for two things taken together as if they were one' (Whitaker, 1996: 105). Such assertions may be formed if, for instance, we take 'cloak' to stand for horse and man, and then proceed to say that 'Cloak is white'. Apparently, in the case of an antiphasis like 'Cloak is white' - 'Cloak is not white', the members do not have to abide by ***RCP***. For an affirmation of this kind to be true, both of the concealed predications must hold, and for the negation to be true, neither predication must hold. If it turns out that one concealed predication holds and the other does not, then both members of the antiphasis will be false. Thus, at the end of *DI*. 8 Aristotle goes on claim that: 'Accordingly, it is not necessary, with these statements either, for one contradictory to be true and the other false' (ὥστε οὐδ᾽ ἐν ταύταις ἀνάγκη τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ εἶναι ἀντίφασιν).[33,34]

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[31] Remember that a statement about a universal not taken universally makes a claim about a universal, e.g. man, without adding that it holds of man universally. So, both 'Man is white' and 'Man is not white' may turn out to be true, in the sense that some men are white and some are not.

[32] See Whitaker, 1996: 95.

On the basis of the above, Whitaker proceeds to argue that there is very good reason to think that the obscure statement of 18a28-9 is simply an abbreviated form of ***RCP***. This passage is set between a statement of ***RCP*** at the end of *DI*. 8, and a repetition of the results concerning this principle discovered in *DI*. 7, *viz*. (**2**)-(**4**). Thus, Whitaker argues, it should be clear that 18a28-9 refers to this same principle. As he puts it, it is '... natural to abbreviate ***RCP***, which is already under discussion, but would be strange to introduce ***PB***, which is not the topic at hand, in so abbreviated a form' (Whitaker, 1996: 113). In other words, his suggestion is that the collective textual evidence suggests that: 'it is necessary for the affirmation or the negation to be true or false' is short for 'in a contradictory pair, it is necessary for the affirmation to be true and the negation false, or for the affirmation to be false and the negation true'.[35]

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[33] *DI*. 8. 18a26-7.

[34] For a more detailed discussion of the material in *DI*. 8, see Whitaker, 1996: ch. 8.

[35] It should also be noted that Whitaker gives a second argument for the case that the principle stated in 18a28-9 is ***RCP***; see Whitaker, 1996: 114-6. *Very briefly*, his second argument is this: in *DI*. 9 we are told that if the principle of 18a28-9 holds of future singulars, then fatalism follows; it is clear, however, that from ***PB*** alone it could not be deduced that anything is true about the future -- which is what is required to establish the necessity of the future; on the other hand, ***RCP*** seems to warrant such a deduction; therefore, the principle introduced in 18a28-9 must be ***RCP*** and not ***PB***. I will get back to this argument in part **III**.

What I think one needs to concede is that *DI*. 7 & 8 are indeed concerned with ***RCP***. The discussion in those two chapters is clearly aimed at establishing two points: (a) ***RCP*** holds of antiphases whose members are statements about universals taken universally, and statements which are about particulars, and (b) there are two exceptions to ***RCP***, namely, statements which are about universals not taken universally, and statements which appear to be simple but contain concealed predications. Furthermore, I think that Whitaker is correct to claim that 18a28-9 gives us an abbreviated form of ***RCP***. Yet, it seems to me that we may provide a stronger argument for this last claim.[36]

As was already noted, 18a28-9, when taken on its own, is at at best obscure. When the discussion in *DI*. 9 is put in context, however, this passage becomes a whole lot clearer. In 18a28-9, the Stagirite asserts that a certain principle applies to statements which are about what is or what has been. What is this principle? Whitaker is certainly right to claim that 18a28-9 follows immediately after a statement of ***RCP*** at the end of *DI*. 8, and that it precedes the repetition of the results concerning this principle obtained through the discussion in *DI*. 7. As was explained above, this evidence alone makes it very likely that (1) = ***RCP***. It seems, though, that there is more evidence in support of this claim. Consider these two passages:

> 17b26-7: Of contradictory statements about a universal taken universally it is necessary for one or the other to be true or false.
> 18a28-9: With regard to things which are and those that have been it is necessary for either the affirmation or the negation to be true or false.

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[36] See also fn. 35.

In the first we are told that a certain principle applies to statements about universals taken universally, whereas in the second we are told that a certain principle applies to statements about what is or what has been. Are these two passages concerned with the same principle? Apparently so. In 18a28-9, we are told that when it comes to antiphases made up of statements which are about what is or what has been, it turns out that 'it is necessary either for the affirmation or the negation to be true or false'. And in 17b26-7, we are told that when it comes to antiphases made up of statements about universals taken universally, it turns out that 'it is necessary that one or the other is true or false'. What we need to note here is that in *DI*. 7. 17b26-8 Aristotle is not concerned with statements about universals taken universally in general. He is concerned with a sub-category of this kind of statements; namely, those that bear on the present.[37] Given what was just noted, it would seem that the only difference between 18a28-9 and 17b26-8 is this: the former passage tells us that a certain principle applies to a set of statements $\Sigma$, whereas the latter tells us that this same principle applies to a set of statements $\sigma$, where $\sigma$ is a subset of $\Sigma$. Now, as was shown earlier, the textual evidence in 17b29*ff* strongly suggests that 17b26-9 is an abbreviated statement of ***RCP***. Hence, if this much is right, then it seems fair to say that 18a28-9 is also an abbreviated statement of this same principle.

In *DI*. 6, the Stagirite has stated that: 'for every affirmation there is an opposite negation, and for every negation an opposite affirmation'. Furthermore, he has noted that this is true not just for statements which bear on the present.[38] What is also clear from the discussion in *DI.* 7-8, is that in those two chapters Aristotle deals with the question of the applicability of ***RCP*** to statements which are concerned with the present.[39] Given this much, the content of 18a28-33 should not come as a surprise. The statements made immediately after (**1**), *viz.* (**2**)-(**4**), are essentially a summary of the investigation in *DI.* 7. 17b26*ff.* Since the results of this investigation were established for present singular and present universal statements, then we have good reason to think that (a) 18a28-9 is a statement of ***RCP*** which says that it applies to the set of statements Σ, where this is the set of statements which are concerned with what is or what has been, and (b) 18a29-33 is meant to remind us which subsets of Σ were found to be subject to ***RCP***, and what sets of statements were found to be exempt from it. If this much is accepted, then we can also make good sense of (**5**). That is, we can construe it as stating that despite the fact that present/past singular statements fall under the purview of (**1**), where (**1**) = ***RCP***, future singular statements do not. To be more specific, we can take it that the Stagirite's claim is that whereas in the case of antiphases consisting of present/past singular statements one is true and the other is false, in the case of antiphases consisting of future singulars things are 'not the same' (οὐχ ὁμοίως).

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[37] This is verified by the kinds of examples Aristotle uses throughout *DI*. 7-8; they are exclusively examples of statements which bear on the present.

To sum-up, it appears that the collective textual evidence from *DI.* 6-8 and *DI.* 9. 18a28-33 indicates that *DI.* 9 as a whole is nothing more than a continuation of the discussion in *DI*. 6-8. That is, the textual evidence suggests that in *DI*. 9 Aristotle is to give a discussion which is intended to establish that future singulars constitute another exception to ***RCP***. What remains to be seen, of course, is why the Stagirite thinks that this principle is violated in the case of future singulars.

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[38] See *DI.* 6. 17a29-30.

[39] See fn. 37.

### III. ***The two arguments for fatalism***:

As was noted in parts **I** and **II**, in *DI*. 9. 18a34*ff* Aristotle considers and rebuts two arguments for fatalism. These arguments seem to work their way into the text like this. If one is to accept that the principle stated in 18a28-9, *viz*. ***RCP***, applies unqualifiedly to future singulars, then one has to also accept the thesis that 'everything that will be ... happens of necessity' (ἅπαντα ... τὰ ἐσόμενα ἀναγκαῖον γενέσθαι).[40] To be more specific, it seems that Aristotle puts the matter as follows. It is clear that ***RCP*** applies to certain kinds of statements. Take, for instance, an antiphasis of present singulars. In such an antiphasis it is necessary that one member is true and the other is false. In the case of future singulars, however, things are different. And putatively, this is so because if ***RCP*** *does* hold unqualifiedly in the case of future singulars, then we will have to accept fatalism along with all the absurdities that emanate from it.

What I intend to do in this part of the paper is to give an analysis of the fatalist's arguments. That is to say, I will explain how Aristotle thinks that the fatalist may get *from* the claim that ***RCP*** applies unqualifiedly to future singulars *to* the claim that everything that will be happens of necessity.

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[40] *DI*. 9. 18b14-5.

The first of the fatalist arguments comes in the passage 18a34-b9:

> **[18a34]** For if every affirmation and negation is true or false, **[35]** it is necessary for everything either to be the case or not to be the case (εἰ γὰρ πᾶσα κατάφασις καὶ ἀπόφασις ἀληθὴς ἢ ψευδής, καὶ ἅπαν ἀνάγκη ὑπάρχειν ἢ μὴ ὑπάρχειν). For if one person **[36]** says that something will be and another denies this same thing, it is clearly **[37]** necessary for one of them to be saying what is true -- if every affirmation **[38]** and negation is true or false; for both will not be the case **[39]** together under such circumstances (ὥστε εἰ ὁ μὲν φήσει ἔσεσθαι τι ὁ δὲ μὴ φήσει τὸ αὐτὸ τοῦτο, δῆλον ὅτι ἀνάγκη ἀληθεύειν τὸν ἕτερον αὐτῶν, εἰ πᾶσα κατάφασις καὶ ἀπόφασις ἀληθὴς ἢ ψευδής. ἄμφω γὰρ οὐχ ὑπάρξει ἅμα ἐπὶ τοῖς τοιούτοις). For if it is true to say that it is white or **[18b1]** is not white, it is necessary for it to be white or not white (εἰ γὰρ ἀληθὲς εἰπεῖν ὅτι λευκὸν ἢ οὐ λευκόν ἐστιν, ἀνάγκη εἶναι λευκὸν ἢ οὐ λευκόν); and if **[2]** it is white or is not white, then it is true to either say or deny this (καὶ εἰ ἔστι λευκὸν ἢ οὐ λευκόν, ἀληθὲς ἢ φάναι ἢ ἀποφάναι).[41] If **[3]** it is not the case it is false, if it is false it is not the case (καὶ εἰ μὴ ὑπάρχει, ψεύδεται, καὶ εἰ ψεύδεται, οὐχ ὑπάρχει). **[4]** So it is necessary for the affirmation or the negation to **[5]** be true. It follows that nothing either is or is happening, or **[6]** will be or will not be, by chance or as chance has it, but everything of necessity **[7]** and not as chance has it (since either he who says or he who denies is saying what is true) (οὐδὲν ἄρα οὔτε ἔστιν οὔτε γίγνεται οὔτε ἀπὸ τύχης οὔθ ' ὁπότερ ' ἔτυχεν, οὐδ ' ἔσται ἢ οὐκ ἔσται, ἀλλ ' ἐξ ἀνάγκης ἅπαντα καὶ οὐχ ὁπότερ ' ἔτυχεν. ἢ γὰρ ὁ φὰς ἀληθεύει ἢ ὁ ἀποφάς). **[8]** For otherwise it might equally well happen or not happen, since what is as chance has it **[9]** is no more thus than not thus, nor will it be.

Like just about everything else in *DI*. 9, the passage just quoted is the subject of intense debate among the commentators.[42] What gives rise to controversy in this case, is the following question: 'What *exactly* is the the fatalist's argument?'.

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[41] I here deviate from Ackrill who reads this sentence, *viz*. 18b1-2, as follows: 'and if it is white or is not white, then it *was* true to say or deny this' (καὶ εἰ ἔστι λευκὸν ἢ οὐ λευκόν, ἀληθὲς ἦν φάναι ἢ ἀποφάναι); see Ackrill, 1963: 50. I will explain later on how this emendation of the text may be justified. On this same issue, see Gaskin, 1995: 27. See also fn. 60.

[42] Contrast, for example, Whitaker, 1996: 115-9 with Gaskin, 1995: 24-34. The views of these two authors will be considered in what follows.

Gaskin's position is that in 18a34-b9 the fatalist argues as follows. In 18a34-5, we get a claim to the effect that unrestricted ***PB*** leads to fatalism. That is to say, Gaskin takes it that the fatalist is here saying that if (it is necessary that) *every* statement is true or false, then everything must necessarily be the case or not be the case. Furthermore, Gaskin adds that it is imperative to note that the modal operator at 18a35, *viz.* ἀνάγκη, 'must have narrow scope, since this line gives us the fatalist's conclusion' (Gaskin, 1995: 25). After stating this much, he proceeds to claim that the statement of 18a34-5 is supported by four steps:

> 1) If something is white or not white, then it is true to say or to deny that it is white (18b1-2); 2) But if someone asserts and another denies that *Fp*, then (at least and at most) one of them must, given ***PB***, be right (18a35-9); 3) If one of them is right, then what he is right about - the truth/falsity of *Fp* - must be (18a39-b1); 4) hence the members of the purported **FCA** [= future contingent antiphasis] are in fact severally necessary/impossible (18a34-5, 18b4).
>
> (Gaskin, 1995: 25)

The *prima facie* evidence, however, indicates that this reconstruction of the argument in 18a34-b9 is problematic. As we have seen, in 18a28-33 Aristotle tells us that in an antiphasis which is made up of present/past singulars, or present/past statements which are about universals taken universally, it is necessary that one member is true and the other false (18a29-31), where we have an antiphasis of future singulars, though, things are different (18a33). Given the above, along with the fact that 18a34*ff* begins with the postpositive conjunction γάρ, it seems unlikely that the argument in this passage takes its start from ***PB***. What is natural to assume is that γάρ at 18a34 signals the beginning of an argument which is meant to show that if we allow ***RCP*** to apply unqualifiedly to future singulars, then the fatalist can have his way with the future.

Whitaker's suggestion is that the opening sentence in 18a34*ff* is to be read as follows: 'if it is the case that in *every* pair of contradictories one member is true and the other false, then it is necessary for everything to be the case or not to be the case'. In other words, he proposes that we take 18a34-5 to contain another abbreviated form of ***RCP***.[43] What is also interesting to note here is the argument he gives in support of his claim. As he points out, one thing that is evident from 18a34*ff* is that the fatalist wants to argue that if there are true future singular assertions, then the corresponding events cannot fail to take place. Hence, what the fatalist needs to establish, if his argument is to get off the ground, is that there are true statements about the future. From ***PB*** alone, however, one can only deduce that whatever assertion is true is not false, and not that anything is true about the future. On the other hand, from ***RCP*** it follows that 'there must be truths about the future, since of any contradictory pair, either the affirmation or the negation must be true' (Whitaker, 1996: 115). Thus, Whitaker concludes, the principle which is at play in the fatalist's (first) argument must be ***RCP*** and not ***PB***.[44]

The question I want to consider here is whether the objections raised against Gaskin's reading of 18a34-5 are fair. What we need to acknowledge at this point is that the textual evidence seems to support Gaskin's interpretation. In these two lines, Aristotle's fatalist states that '... if every affirmation *and* negation is true or false (εἰ ... πᾶσα κατάφασις καὶ ἀπόφασις ἀληθὴς ἢ ψευδής), it is necessary for everything either to be the case or not to be the case'. Obviously, the protasis in this conditional may be construed as a statement of ***PB***.[45] In fact, the wording in it matches the wording of *Categories* (*Cat.*) 4. 2a7-8, which is widely considered to be Aristotle's clearest statement of this principle.[46,47] If we accept that 18a34-5 states that unrestricted ***PB*** leads to fatalism, however, then it seems that we will have to give up our reading of 18a28-33. As was explained earlier on, if the Stagirite's concern in the opening paragraph of *DI.* 9 is with ***RCP***, then it is only natural to expect that 18a34*ff* contains an argument to the effect that if we accept that ***RCP*** applies unqualifiedly to future singulars, then we will have to also accept fatalism along with all its absurd consequences. It appears, though, that the textual evidence suggests that the fatalist's (first) argument takes its starting point from ***PB*** and not ***RCP***.

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[43] See Whitaker, 1996: 114-5.

[44] For further details on Whitaker's argument, see Whitaker, 1996: 114-5.

I think it is fair to concede that 18a34-5 contains a statement of ***PB*** and not ***RCP***. At the same time, however, I don't think that we need to take this to suggest that (a) our reading of 18a28-33 is problematic, and/or (b) the fatalist argument in 18a34*ff* has ***PB*** as its starting point. If we take a look at 18a35-8, we will see that the fatalist points out that:

> *Given that every affirmation and negation is true or false*, then it follows that if one states that something will be the case, and another

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[45] It is the presence of the conjunction καὶ, instead of ἤ, which allows us to read the protasis in this conditional as a statement of ***PB***.

[46] *Cat.* 2a7-8 reads as follows: ἅπασα γὰρ δοκεῖ κατάφασις καὶ ἀπόφασις ἤτοι ἀληθὴς ἢ ψευδὴς εἶναι.

[47] See Sorabji, 1980: 95, and Whitaker, 1996: 126.

> denies this very same thing, then it is necessary for one of them to be saying what is true.

What we need to note here is that in 18a35-7 we get an abbreviated statement of ***RCP***: if *A* asserts that *Fp*, and *B* asserts that *~Fp*, then one of them must be stating what is true (and the other what is false). What is even more important to note, though, is how the fatalist justifies this claim. He clearly states that we can maintain that of *A* and *B* one must be saying what is true and the other what is false, *provided* that we accept the principle stated at 18a34-5. That is, he states that we can maintain that ***RCP*** holds of future singulars, provided we accept the principle which states that every affirmation and negation is true or false (εἰ πᾶσα κατάφασις καὶ ἀπόφασις ἀληθὴς ἢ ψευδής), *viz*. ***PB***. Now, the question we need to address is that of how we are to understand 18a35-8.

The proposal I would like to put forward is this. As was noted in part **II**, Aristotle says that we have a contradictory pair where we have a statement which affirms *P* of *x*, and a statement which denies *P* of *x*.[48] Furthermore, we know that Aristotle upholds the principle of contradiction (*PC*): '... the same attribute cannot at the same time belong and not belong to the same subject in the same respect' (τὸ γὰρ αὐτὸ ἅμα ὑπάρχειν τε καὶ μὴ ὑπάρχειν ἀδύνατον τῷ αὐτῷ καὶ κατὰ τὸ αὐτό).[49] Now, the principle that we have seen the Stagirite introduce in *DI*. 7, namely ***RCP***, is a rule concerning the way truth values are apportioned among the members of a contradictory pair. But if Aristotle is to get *from* the definition of contradiction and ***PC to RCP***, then an extra step is required. We may accept that in a contradictory pair one member asserts that $P$ holds of $x$, and the other asserts that $P$ does not hold of $x$. Furthermore, we may accept that a property $P$ cannot at the same time belong and not belong to the same entity $x$. Nevertheless, if we are going to maintain that one member of a contradictory pair is true and the other false, then we need to also accept that ***PB*** holds of all statements. Thus, what I would like to suggest here is that in 18a35-8 the Stagirite expresses, on behalf of the fatalist, the point just noted. That is to say, he *explicitly* acknowledges that if we are to pronounce that it is necessary that of a pair of future contradictories one member is true and the other is false (***RCP***), we have to also assume that *every* affirmation and negation is either true or false (***PB***).

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[48] See *DI*. 6. 17a31*ff*.

[49] *Met*. Γ. 3. 1005b19-20.

If the argument given above is adopted, then we may also explain what is going on in 18a34-5. At the end of the first paragraph of *DI.* 9, Aristotle asserts that ***RCP*** does not apply unqualifiedly to future singulars. At the beginning of the next paragraph, he states that from unrestricted ***PB*** there follows fatalism (18a34-5). But, as Whitaker has pointed out, from ***PB*** alone the fatalist cannot deduce what he needs for his argument; namely, that there are truths about the future. It seems to me, however, that if we accept the analysis of 18a35*ff* outlined above, then we may easily resolve the difficulty at hand. We can take it that Aristotle's intended claim at 18a34-5 is this: if we accept unrestricted ***PB***, which is what is required if we are to be able to assert that ***RCP*** applies (unqualifiedly) to future singulars, then fatalism ensues. In more detail, the suggestion made here is this: (a) in 18a28-33, Aristotle acknowledges that ***RCP*** cannot apply to future singulars in the same way that it applies, for instance, to present singulars; (b) in the main body of the argument in 18a34*ff*, he explains that if this principle applies (unqualifiedly) to future singulars then fatalism follows; (c) in 18a35-8, he states that if ***RCP*** is to be said to hold of future singulars, which is what is required to establish that everything that will be happens of necessity, we *must* assume that ***PB*** holds universally; and (d) if (c) is correct, then 18a34-5 may be construed as saying that unrestricted ***PB*** leads to fatalism, in the sense that it is a necessary condition for claiming that ***RCP*** holds unqualifiedly of future singulars.

This much seems to be sufficient to establish the congruence of the discussion theme in 18a28-33 and 18a34-b9. What we are yet to settle, however, is the issue of how we are to reconstruct the fatalist's first argument.

According to R. Sorabji, who endorses **AR**[50], the key step in the fatalist argument is this: '... of two contradictory predictions one is true [18b7], is earlier true [18b10], has always been true [18b10-11], and has been true for the whole of time [19a1-2]' (Sorabji, 1980: 91). More specifically, Sorabji's position is that the fatalist of *DI*. 9 argues along these lines: of two contradictory future singulars, '*Fp*' - '~*Fp*', one is true; if '*Fp*' is the statement that is true, then it is fair to say that it was true earlier; the past is necessary in the sense that it is irrevocable; given the past, and thus necessary, truth of our prediction, it follows that there is nothing we can do to prevent the coming to be of the relevant state of affairs.[51] On the other hand, Gaskin, who espouses **C**, suggests that the key premiss in the fatalist's argument is that of the necessity of the present. *Very briefly*, his position is that the fatalist argues as follows: if *A* asserts and *B* denies that *Fp*, then (at least and at most) one of them must, given ***PB***, be right; suppose that the true statement is '*Fp*'; the present is necessary in the sense that it is irrevocable; if the statement '*Fp*' is now true, then, given the necessity of the present, it follows that the relevant state of affairs is (now) unpreventable.[52]

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[50] See Sorabji, 1980: 96.

What we ought to notice here is that both of the suggestions outlined above are compatible with the spirit of both **AR** and **C**. According to these two approaches to the interpretation of *DI*. 9, the Stagirite finds his opponent's argument to be valid. That is, **AR** and **C** have it that he concedes to the fatalist that *if* it is indeed the case that there are true predictions, then it *does* follow that what is predicted cannot fail to obtain. Putatively, this point creates no exegetical difficulties for Sorabji and Gaskin, since there is textual evidence which suggests that the Stagirite regards the present and the past to be necessary -- in the sense that they are irrevocable.[53] In other words, it seems that there is textual evidence which suggests that Aristotle would not object to the move *from* the past/present truth of a future statement *to* the necessity of the relevant state of affairs.[54] In what follows, however, I intend to show that there is no indication in 18a34-b9 that either the necessity of the present or the necessity of the past enter into the fatalist's (first) argument.

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[51] For further details on this reconstruction of the fatalist argument, see Sorabji, 1980: ch. 5, esp. pp. 91-92, 100-3.

[52] See Gaskin, 1995: ch. 5, esp. pp. 47-8, and chs 8 & 9.

[53] See the references in Sorabji, 1980: 8. See also the discussion in Gaskin, 1995: ch. 9.

As we have seen, in 18a34-5 Aristotle claims that, if ***PB*** holds universally, then everything will be of necessity. We have also seen that the next few lines, *viz*. 18a35-9, are meant to elucidate part of the claim in the first sentence of the paragraph. That is, in this passage the Stagirite goes on to explain that if ***PB*** holds universally, then we can proceed to claim that of two people, one of whom asserts that *Fp* and the other that *~Fp*, one must be saying what is true (and the other what is false). The crucial part of the argument for fatalism, though, comes in 18a39*ff*. Apparently, it is here that Aristotle explains how unrestricted ***RCP*** leads to fatalism. In these lines, the Stagirite presents a series of claims:

> (1) If it is true to say that *x* is white, then it is necessary that *x* is white; and, if it is true to say that *x* is not white, then it is necessary that *x* is not white (18a39-b1).
> (2) If (it is the case that) *x* is white or not white, then it is true to either say or deny this (18b1-2).
> (3) If it is not the case that, let us say, an entity *y* has the property *P*, then it is false to say that *y* is *P*. And if it is false to say that *y* is *P*, then it is not the case that *y* is *P* (18b2-3).
> (4) In a pair of contradictories it is necessary that either the affirmation or the negation is true (18b4-5).
> (5) From (1)-(4) follows that: '... nothing either is or is happening, or will be or will not be, by chance or as chance has it, but everything of necessity and not as chance has it' (18b5-7).

What remains to be seen, of course, is why Aristotle thinks that the above amounts to some kind of argument for fatalism.

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[54] As was indicated in part I, AR and C have it that Aristotle considers the fatalist argument to be valid but not sound. To be more specific, they have it that he rejects the claim that there *are* future truths.

To understand how Aristotle sees the move from (1)-(4) to (5), we need to consider what he has to say about truth and falsity in *Met*. E. 4. 1027b18-22[55]:

> [**b18**] That which is as true and that which is not as [**19**] falsehood are concerned with composition and division and, taken together, [**20**] with the apportionment of a contradiction (τὸ δὲ ὡς ἀληθὲς ὄν, καὶ μὴ ὂν ὡς ψεῦδος, ἐπειδὴ παρὰ σύνθεσίν ἐστι καὶ διαίρεσιν, τὸ δὲ σύνολον περὶ μερισμὸν ἀντιφάσεως). For truth has the [**21**] affirmation in the case of what is compounded and the denial in the case of [**22**] what is divided, while a falsehood has the contradictory of the apportionment (τὸ μὲν γὰρ ἀληθὲς τὴν κατάφασιν ἐπὶ τῷ συγκειμένῳ ἔχει τὴν δ' ἀπόφασιν ἐπὶ τῷ διῃρημένῳ, τὸ δὲ ψεῦδος τούτου τοῦ μερισμοῦ τὴν ἀντίφασιν).[56]

In this passage Aristotle appears to assert ***RCP***. To be more specific, the claim in this passage is to the effect that if the statements '*p*' and '~*p*' are the members of a contradictory pair, then one must be true and the other false. What is also important to note here, is that in 1027b20-22 the Stagirite clearly states that:

> (i) A true affirmation corresponds to a combination of things in the world. For example, if Socrates and tall are combined in a certain way, then 'Socrates is tall' is true.
> (ii) A false affirmation asserts the combination of things which are in fact divided. For example, if Socrates and tall are divided, then 'Socrates is tall' is false.
> (iii) If things are divided, then a true statement about them will be a negation. For example, if Socrates and tall are divided, then 'Socrates is not tall' is true.
> (iv) If things are combined, then a false statement about them will be a negation. For example, if Socrates and tall are combined in a certain way, then 'Socrates is not tall' is false.

In other words, it seems that what Aristotle is trying to say in *Met*. 1027b18-22 is this: (a) in a pair of contradictories (it is necessary that) one member is true (and the other false), (b) in a contradictory pair, the affirmation is true if it asserts the combination of things which are in fact combined, and it is false if it asserts the combination of things which are in fact divided, and (c) in a contradictory pair, the negation is true if it asserts the division of things which are in fact divided, and it is false if it asserts the division of things which are in fact combined.

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[55] This is not the only place where Aristotle discusses his theory of truth -- which is essentially a correspondence theory of truth. See also, *DI*. 1. 16a9*ff*, *Met*. Γ. 7. 1011b25*ff*, and Θ. 10. 1051a34-b15. For a useful discussion of these texts, see Whitaker, 1996: 25-34.

[56] Kirwan's translation; see Kirwan, 1993: 72.

To see how all this relates to the argument for fatalism, we need to go back to 18a35-9. As we have seen, in this passage the Stagirite's opponent claims that if *A* asserts that *Fp*, and *B* asserts that *~Fp*, then it is necessary that one of them is saying what is true. In other words, the claim is this: given the fact that ***RCP*** holds of future singulars, it follows that in a contradictory pair, such as '*Fp* - '*~Fp*', one member must be true (and the other false). What I would like to suggest here is that the discussion in the next few lines, *viz.* 18b1-5, very much like the discussion in *Met*. E. 4. 1027b18-2, is designed to establish the following:

> (1) ***RCP*** holds of statements which bear on the present. In other words, of a pair of contradictories, where these are statements about what is, it must be the case that one member is true (and the other false) [18b4-5].
>
> (2) Let us consider the pair of contradictories '*x* is white' - '*x* is not white' -- both of which bear on the present. In a pair of contradictories like this, the conditions for the apportionment of the truth values, *viz.* True/False, have as follows:
>
> > (a) If it is true to say that *x* is white, then it must be the case that *x* and white are somehow combined [18a39-b1].
> >
> > (b) If it is true to say that *x* is not white, then it must be the case that *x* and white are divided [18a39-b1].
> >
> > (c) If it is false to say that *x* is white, then it must be the case that *x* and white are divided [18b2-3].
> >
> > (d) If it is false to say that *x* is not white, then it must be the case that *x* and white are combined [18b2-3].

Furthermore, I would like to suggest that the argument which leads from the above to the conclusion that everything happens of necessity (18b5-7) contains a couple of omitted steps. First, the conditions for the apportionment of truth values among a pair of future contradictories, are the same as the ones for present contradictories. That is to say, future statements, like present statements, fall under the purview of the correspondence theory of truth outlined in *DI*. 9 and *Met*. E. 4. Second, if this much is right then a future statement may be said to be true, *provided* that it corresponds to a truth maker, namely, the combination or the division of certain things in the world. Now, if it is indeed the case that ***RCP*** holds of future singulars, then it follows that of a contradictory pair such as '*Fp*' and '~*Fp*' one member *must* be true (and the other false). Let us suppose that '*Fp*' is the member of the contradiction which is true. What does it mean to say that a certain statement is true? As was just noted, it means that it corresponds to a certain fact. Obviously, in the case of '*Fp*' the truth maker is some future state of affairs. And clearly, what the requirements for truth entail, is that the truth maker for '*Fp*' cannot fail to obtain *once we are given the truth of* '*Fp*'.

To spell things out a bit, my proposal is that in 18a34-b9 Aristotle's opponent argues as follows. If ***RCP*** applies to future singulars, then it must be the case that in a pair of contradictories such as '*Fp*' - '~*Fp*', one member is true and the other is false. Future statements, like present statements fall under the purview of the correspondence theory of truth described earlier on. This last point has some serious implications concerning the nature of the future. As was just indicated, if ***RCP*** holds of future singulars, then one of the members of the pair '*Fp*' - '~*Fp*' *must* be true. What this means is that there are future truths. In turn, this entails that if '*Fp*' is the member of the contradiction which is true, then it cannot fail to correspond to a future fact. If we refuse to accept this much, then we cannot plausibly maintain that '*Fp*' is true. In other words, the fatalist's view is this. The applicability of ***RCP*** to future singulars guarantees that one of '*Fp*' and '~*Fp*' is true. Suppose that it is '*Fp*' which is true. If we are to say that this statement is true, then we have to accept that it must correspond to some future fact. And to accept this is to accept that the truth maker for '*Fp*' cannot fail to obtain. Hence, the fatalist concludes, on the basis of the above one may go ahead and assert that: '... nothing either is or is happening, or will be or will not be, by chance or as chance has it, but everything of necessity'.[57]

Before I close the discussion of 18a34-b9, I need to deliver on a promise made earlier on. That is, I have to show that the interpretation of this passage suggested here is more plausible than the ones put forward by Gaskin and Sorabji. Let us begin with Gaskin. According to Gaskin, the key premiss in the fatalist's argument is that of the necessity of the present. It seems, however, that there is nothing in 18a34-b9 which indicates that the fatalist makes use of the claim that the present is necessary. In fact, in his account of *DI.* 9 Gaskin makes no attempt to find such a claim in 18a34-b9. The way he imports this premiss in his interpretation is *via* construing 19a23-4 as giving us a statement of this thesis.[58] Hence, given Gaskin's inability to find a statement of this thesis in 18a34-b9, I would like to submit that his suggestion is (at best) problematic. As far as Sorabji's suggestion is concerned, it seems to me that there is no evidence whatsoever which may be cited in its support. Putatively, the place where the past seems to creep into the fatalist's first argument is 18b1-2: 'and if it is white or is not white, then it *was* true to say or deny this'/καὶ εἰ ἔστι λευκὸν ἢ οὐ λευκόν, ἀληθὲς **ἦν** φάναι ἢ ἀποφάναι.[59] However, as was indicated earlier on, *viz.* fn. 41, the text should be emended to read: καὶ εἰ ἔστι λευκὸν ἢ οὐ λευκόν, ἀληθὲς **ἦ** φάναι ἢ ἀποφάναι. The reason I think the second reading is the correct one, is the material in 18b2-3. As we have seen, in these lines Aristotle states that: if it is not the case that *x* is *F*, then it is false to say that *x* is *F*; and if it is false to say that *x* is *F*, then it is not the case that *x* is *F*. Given that this is the content of 18b2-3, then it is reasonable to assume that 18a39-b2 states the parallel case for true statements: if it is true to say that *x* is/is not *F*, then it must be the case that *x* is/is not *F*; and, if it is the case that *x* is/is not *F*, then it is true to say that *x* is/not *F*. But, to get this out of 18a39-b2, we need to read 18b1-2 as suggested above. That is, we need to read it as saying that: 'if it is [the case that it is] white or not white, then it is either true to say or to deny this'. In short, my position is that there is only one point where we may say that the past enters into the fatalist's (first) argument; namely, ἦν at 18b2.[60] As was just explained, though, the text makes more sense if instead of ἦν at 18b2 we read ἦ. Obviously, if this suggestion is adopted then 18a34-b9 does not seem to contain *any* reference to the past. Hence, I would like to submit that Sorabji's proposal lacks the required textual support.

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[57] Naturally, the issue that arises here is this. If the fatalist's conclusion is to go through, *viz.* the claim that *everything* will be of necessity, then it must be the case that: for *every* future event, there exists a relevant pair of contradictory statements. But, is it plausible for one to assume that *there are* (utterances of) such contradictories for every future state of affairs? The fatalist's insistence that the applicability of ***RCP*** to future singulars guarantees the fixity of *all* future events, see e.g. 18b14-15, suggests that he wants to answer this question in the affirmative. As we will see in part V, though, his view is not that for every future event there is in existence a relevant pair of future singular statements. Rather, his position is that the applicability of ***RCP*** to such statements shows that if one were to examine a pair of statements such as '*Fp*' - '~*Fp*', then one would see that the relevant state of affairs is now unpreventable.

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[58] See Gaskin 1995: ch. 4. I will come back to this point in part VI.
[59] See, for example, Ackrill's translation in Ackrill, 1963: 50.

Time now to turn to the fatalist's second argument which comes in the passage 18b9-16:

> **[18b9]** Again, if it is white **[10]** now it was true to say earlier that it would be white; so that it was always true **[11]** to say of anything that has happened that it would be so (ἔτι εἰ ἔστι λευκὸν νῦν, ἀληθὲς ἦν εἰπεῖν πρότερον ὅτι ἔσται λευκόν, ὥστε ἀεὶ ἀληθὲς ἦν εἰπεῖν ὁτιοῦν τῶν γενομένων ὅτι ἔστιν ἢ ἔσται). But if it was always **[12]** true to say that it was so, or would be so, it could not not be so, **[13]** or not be going to be so (εἰ δ' ἀεὶ ἀληθὲς ἦν εἰπεῖν ὅτι ἔστιν ἢ ἔσται, οὐχ οἷόν τε τοῦτο μὴ εἶναι οὐδὲ μὴ ἔσεσθαι). But if something cannot not happen it is impossible for it not to **[14]** happen; and if it is impossible for something not to happen it is necessary for it to happen (ὃ δὲ μὴ οἷόν τε μὴ γενέσθαι, ἀδύνατον μὴ γενέσθαι· ὃ δὲ ἀδύνατον μὴ γενέσθαι, ἀνάγκη γενέσθαι). Everything **[15]** that will be, therefore, happens necessarily (ἅπαντα οὖν τὰ ἐσόμενα ἀναγκαῖον γενέσθαι). So nothing will come about as chance has it **[16]** or by chance; for if by chance, not of necessity (οὐδὲν ἄρα ὁπότερ' ἔτυχεν οὐδὲ ἀπὸ τύχης· εἰ γὰρ ἀπὸ τύχης, οὐκ ἐξ ἀνάγκης).

The *prima facie* evidence indicates that in this passage the fatalist *does* make use of the necessity of the past. In particular, the textual evidence from 18b9-14 appears to indicate that the fatalist's position is this: if *x* is now white, then it was true to say earlier that *x* would be white; the past is necessary; given the past (and thus necessary) truth of our prediction, it follows that *x* could not have failed to be white.

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[60] It should be noted that ἦν at 18b2 has long been suspected of being a corruption of ἦ. For further details on this point, see Gaskin, 1995: 27, and esp. fn. 15.

What seems to tell against this reconstruction of 18b9-14 is the material in 18b14-6. Under the reading outlined above, 18b9-14 turns out be an argument to the effect that the past (and thus necessary) truth of a prediction which has already occurred, and which relates to a state of affairs that obtains now, renders this state of affairs necessary -- in the sense that it could not have failed to obtain. The problem is that in 18b14-5 Aristotle goes on to state that given what was just said, *viz.* 18b9-14, it follows that 'everything that will be ... happens necessarily'. It should be clear, however, that if we accept the suggested reading of 18b9-14 then the stated conclusion does not follow. Under the reconstruction outlined here, all this passage can be said to establish is that the present states of affairs are necessary -- again, in the sense that their occurrence could not have been prevented.

Given what was noted above, I think that it is plausible to assume that in 18b9*ff* we get an argument which picks things up from where they were left off in 18a34-b9. What I mean by this is that the fatalist's intention in 18b9-16 is to argue as follows: If a prediction is true, regardless of whether this prediction relates to a state of affairs that obtains now or to a still later state of affairs, then the predicted event cannot fail to obtain. In other words, my suggestion is that 18b9-16 is a continuation of the discussion in 18a34-b9 which is intended to make the following point. If a prediction is to be said to be true, then the predicted event cannot fail to obtain, regardless of when, in relation to the absolute now, either the prediction or that event occurs.

If the suggestion made above is accepted, then we can see that, despite appearances to the contrary, the necessity of the past does not enter into the second fatalist argument. To be more specific, my proposal is that in 18b9-14 Aristotle may be taken to be saying that: of two contradictory predictions which have already occurred, and which relate to a present state of affairs, one must have been true and the other false (by ***RCP***); given that one of these predictions was indeed true, then its truth maker, which obtains now, could not have failed to obtain; if it was possible for its truth maker to fail to obtain, then we would not have been able to say that the prediction was true. What we also need to keep in mind at this point is that the fatalist has it that a parallel line of reasoning applies to contradictory predictions which relate to a future state of affairs (18a34-b9). It seems, then, that the fatalist's position is that (a) the applicability of ***RCP*** to contradictory predictions concerning present states of affairs shows that the present states of affairs were (pre-)determined, and (b) the applicability of ***RCP*** to predictions concerning future events shows that the future is also fixed. On the basis of (a)-(b), I would like to submit, the fatalist goes on to assert that '... nothing will come about as chance has it or by chance', because of *any* two contradictory predictions, regardless of whether these relate to present or future states of affairs, one is/was true and the other false.[61]

What remains to be seen is how Aristotle responds to the argument(s) for fatalism. Before we do this, however, we have to go over the Stagirite's discussion of a certain attempt to resolve this problem (18b16-25), and some further comments on the fatalist position (18b26-19a6).

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[61] See fn. 57.

## IV. A first attempt to rebut fatalism:

In *DI*. 9. 18b17-25, Aristotle rejects one possible answer to the threat of fatalism. To be more specific, in this passage he states that:

> **[18b17]** Nor, however, can we say that neither is true -- that it **[18]** neither will be nor will not be so. For, firstly, though the affirmation is **[19]** false the negation is not true, and though the negation is false the **[20]** affirmation, on this view, is not true. Moreover, if it **[21]** is true to say that something is white and large, both have to hold of it, and if **[22]** true that they will hold tomorrow, they will have to hold tomorrow; and if it neither will be **[23]** nor will not be the case tomorrow, then there is no 'as chance has it'. Take **[24]** a sea battle: it would *have* neither to happen nor **[25]** not to happen.

What seems to be sufficiently clear is that in 18b17-18 Aristotle proposes to consider the suggestion that the fatalist may be answered if we assume that both members of an antiphasis of future singulars are false. Putatively, if this suggestion is accepted, then one may block the key premiss in the argument for fatalism, namely, the claim that ***RCP*** holds of future singulars. As the Stagirite goes on to point out, however, there are two problems with this proposal. First, if the affirmation is false and the negation is also false, then the objection at hand leads to contradiction (18b18-20). Consider, for example, the contradictory pair [$\mathcal{A}$ =] There will be a sea battle tomorrow' - [$\mathcal{B}$ =] 'There will not be a sea battle tomorrow'. If both $\mathcal{A}$ and $\mathcal{B}$ are false, then it follows that (a) it is true that a sea battle will not take place tomorrow, and (b) it is also true that a sea battle will take place tomorrow. This is clearly a contradiction. Second, if we go ahead and assume that both $\mathcal{A}$ and $\mathcal{B}$ are false, then the fatalist's conclusion follows *anyway* (18b20-5). That is to say, the 'argument from truth to necessity (falsity to impossibility) would still hold, and it would be *necessary* for the event both not to happen and not not to happen' (Ackrill, 1963: 137).[62]

To sum-up, it appears that Aristotle thinks that stipulating that both members of an antiphasis of future singulars are false will not do to rebut the argument(s) for fatalism. As we will see in what follows, he will proceed to suggest a different objection to fatalism. Before he does this, however, he will add a few more comments on his opponent's thesis.

## V. *More on fatalism*:

Perhaps the least commented on part of *DI.* 9 is the passage 18b26-19a6. In his notes on the chapter, Ackrill devotes only a few lines to this passage. Similarly, in Whitaker's recent study of the book 18b26-19a6 receives very little attention.[63]

In 18b26-19a6, Aristotle presents a discussion which is intended to further elucidate the fatalist's thesis. Let us see how this discussion goes:

> **[18b26]** These and others like them are the absurdities that follow **[27]** if it is necessary, for every affirmation and negation either about **[28]** universals spoken of universally or about particulars, **[29]** that one of the opposites be true and the other false, and that nothing **[30]** of what happens is as chance has it, but everything **[31]** is and happens of necessity. So there would be no need to deliberate **[32]** or to take trouble (thinking that if we do this, this will happen, **[33]** but if we do

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[62] For further details on the analysis of 18b17-25 outlined above, see Ackrill, 1963: 135, 137. See also the discussion in Gaskin, 1995: 28-9, and esp. fn. 22.

[63] See Ackrill, 1963: 137, and Whitaker, 1996: 118-9.

> not, it will not). For there is nothing to prevent someone's **[34]** having said ten thousand years beforehand that this would be the case, and another's having **[35]** denied it; so that whichever of the two was true to **[36]** say then, will be the case of necessity. Nor, of course, does it make any difference whether any people uttered **[37]** the contradictory statements or not (ἀλλὰ μὴν οὐδὲ τοῦτο διαφέρει, εἴ τινες εἶπον τὴν ἀντίφασιν ἢ μὴ εἶπον). For clearly this is how the actual things **[38]** are even if someone did not affirm it and another deny it (δῆλον γὰρ ὅτι οὕτως ἔχει τὰ πράγματα, κἂν μὴ ὁ μὲν καταφήσῃ τι ὁ δὲ ἀποφήσῃ). For it is not **[39]** because of the affirming or denying that it will be or will not be the case, nor is it a question **[19a1]** of ten thousand years beforehand rather than any other time (οὐδὲ γὰρ διὰ τὸ καταφαθῆναι ἢ ἀποφαθῆναι ἔσται ἢ οὐκ ἔσται, οὐδ ' εἰς μυριοστὸν ἔτος μᾶλλον ἢ ἐν ὁποσῳοῦν χρόνῳ). Hence, if in the whole **[2]** of time things were so that one or the other was true, it was necessary **[3]** for this to happen, and for the state of things always to be such **[4]** that everything that happens happens of necessity (ὥστ ' εἰ ἐν ἅπαντι τῷ χρόνῳ οὕτως εἶχεν ὥστε τὸ ἕτερον ἀληθεύεσθαι, ἀναγκαῖον ἦν τοῦτο γενέσθαι, καὶ ἕκαστον τῶν γενομένων ἀεὶ οὕτως ἔχειν ὥστε ἐξ ἀνάγκης γενέσθαι). For what anyone has truly said **[5]** would be the case cannot not happen; and of what happens it was **[6]** always true to say that it would be the case (ὅ τε γὰρ ἀληθῶς εἶπέ τις ὅτι ἔσται, οὐχ οἷον τε μὴ γενέσθαι· καὶ το γενόμενον ἀληθὲς ἦν εἰπεῖν ἀεὶ ὅτι ἔσται).

In the first few lines of this passage, *viz*. 18b26-31, Aristotle tells us that from the universal applicability of ***RCP***, and the ensuing absence of contingency, there seem to follow certain 'absurdities' (ἄτοπα).[64] The rest of the passage, 18b31*ff*, elaborates on this claim and in the process adds some new comments on fatalism.

The first new comment on fatalism comes in 18b31-6. In these lines, the Stagirite explains that the fatalist's thesis has some implications for human action. As he notes, if it is indeed the case that everything happens of necessity, then there is no need to deliberate about anything. To be more specific, the point Aristotle is trying to make here is this. Deliberation is about what is in our power, and it depends on the openness of alternative courses of action.[65] The fatalist, however, maintains that nothing prevents someone having predicted ten thousand years ago that I will do something, and someone else having predicted the opposite. Putatively, if this is the case, and given that ***RCP*** applies universally, then my action (or its opposite) cannot fail to come about.[66] Thus, Aristotle's fatalist goes on to claim, if it is indeed the case that the future is not open then it follows that deliberation is futile. And this conclusion, the Stagirite has already told us, is patently absurd (18b26-31).

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[64] Apparently, Aristotle thinks that the absurdity that follows from the fatalist position is that deliberation is futile. In other words, it seems that 'τὰ μὲν δὴ συμβαίνοντα ἄτοπα ταῦτα ...' refers to the material in 18b31*ff* and not to some previous discussion. See also Ackrill, 1963: 137.

As we have just seen, the fatalist holds that of any pair of contradictory predictions concerning human action one must be true and the other false; given that this is the case, then it follows that all human actions are necessary -- in the sense that they are unpreventable.[67] In 18b36-8, however, Aristotle goes on to add, again *propria voce*, that the fatalist's position would not be hampered even if nobody 'uttered' (εἶπον) the relevant statements. That is to say, the claim is that the inevitability of my action, let us say, going/not going to the swimming pool later on today, is not dependent on whether some people have uttered the relevant contradictory statements.

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[65] For more details on Aristotle's views on deliberation, see *Nichomachean Ethics* (*NE*) Γ. 3, and esp. 1113b3-22.

[66] The fatalist argument here is essentially the same as the one in 18a34-b9. There is nothing which prevents *A* having predicted ten thousand years ago that I will go swimming today, and *B* having predicted that I will not. Given the fact that ***RCP*** applies unrestrictedly, it follows that one of them *must* be right. Suppose that *A* is right. If this is the case, then my action cannot fail to come about.

[67] See fns 57 and 66.

The question we need to consider here is how we are to understand the material in 18b36-8. The discussion in 18a28-b36 shows that the fatalist's argument takes its start from certain facts about language and truth: if ***RCP*** applies to future singulars, and given the truth conditions for statements such as '*Fp*' - '~*Fp*', then it follows that the future is fixed. Nevertheless, in 18b36-8 Aristotle tells us that the fatalist takes it that the future is fixed even if no one has uttered the relevant statements. In other words, the fatalist maintains that a future state of affairs $\mathcal{A}$ is (now) determined, even if there are no relevant contradictory statements. Does this tell against our reconstruction of 18a28-b36? In 18b38-19a3, Aristotle tells us that the fatalist's position is roughly this. Suppose that things in the world are and/or have been such that make it so that one of '*Fp*' - '~*Fp*' is true and the other false (19a1-2). Furthermore, suppose that these present/past conditions make it necessary that '*Fp*' is the member of the antiphasis which is true. If this much is right, then it is necessary for the state of affairs $\mathcal{A}$, which is described by '*Fp*', to come about (19a2-3). In other words, it seems that the fatalist's view is this. There are certain present and past state of affairs which necessitate the coming to be of a future state of affairs $\mathcal{A}$. Naturally, the puzzle we are faced with at this point is whether the necessitarianist of *DI*. 9 is not really a logical fatalist, but a causal determinist whose views are akin to those examined in *Met*. E. 3. More specifically, the question is whether at 18b36*ff* Aristotle's opponent makes a sudden shift in his line of argumentation. The answer, I think, is to be found in: (a) the claim of 18b36-8 that the future event 𝒜 is fixed even if nobody has uttered the relevant contradictory statements, and (b) the phrasing of 19a1-3 -- ὥστε εἰ ἐν ἄπαντι τῷ χρόνῳ οὕτως εἶχεν ὥστε τό ἕτερον ἀληθεύεσθαι, ἀναγκαῖον ἦν τοῦτο γενέσθαι. It is clear enough that the theorist of *DI.* 9 holds that what necessitates the future event 𝒜 is not the fact that some people uttered the statements '*Fp*' - '*~Fp*', but certain (present and/or) past causal conditions (οὕτως εἶχεν ὥστε ...). Despite appearances to the contrary, though, this much does not nullify the argument constructed in 18a28-b36. The evidence from 19a1-3 suggests that the point Aristotle's opponent is trying to make is this. The causal conditions which necessitate the coming to be of the future event 𝒜, make it also necessary that one of '*Fp*' - '*~Fp*' is true and the other false. And, although the fixity of the future is not dependent on the existence of these statements, the fact remains that: there are conditions in the world which make it necessary that the future event 𝒜 will come about; this much entails that of the two statements '*Fp*' - '*~Fp*' one is (of necessity) true and the other false; hence, if we were to examine this pair of statements we would see that the future is (now) fixed.[68]

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[68] For another attempt to connect the argument of *DI.* 9 with the material *contra* causal determinism in *Met.* E. 3, see White, 1981; esp. 236*ff.* [There are two related points which I would like to note here. First, White finds support for the claim that there is a connection between *DI.* 9 and *Met.* E. 3 in 19a32-35 -- he never mentions the material in 18b36-38. It is not clear at all, though, that at 19a32-35 Aristotle is trying to present an argument *contra* causal determinism; see the discussion in the latter half of part VI. And second, White takes it that the Stagirite makes no distinction between logical fatalism and causal determinism. That is, he takes it that *DI.* 9 gives us another argument against causal determinism. It is my intention, however, to show that the discussion in 19a6*ff* is still focussed against the argument of 18a34-b9; *viz.* an argument which takes its start from the claim that ***RCP*** applies to future singulars, without any further consideration of the reasons that

To sum up, the suggestion here is that Aristotle's opponent acknowledges that the reason ***RCP*** holds of future singulars are certain present and/or past causal conditions. This much, however, does not upset the line of reasoning in 18a28-b36. As we have just seen, the material in 18b36*ff* may be construed as follows. It is not the fact that somebody has uttered '*Fp*' and somebody else has uttered '~*Fp*' that makes the future fixed. Rather, the fixity of the future is the result of certain present/past causal conditions. Nevertheless, this fact about reality makes it also necessary that ***RCP*** holds of future singulars. Hence, the fatalist tells us, if one were to consider a pair of future statements such as '*Fp*' - '~*Fp*', then one would readily see that the future is fixed. And, I would like to suggest, the focus of Aristotle's discussion in *DI*. 9 is an argument that takes its start from the claim that ***RCP*** applies universally, *viz*. the argument of 18a34-b9, without any further consideration of the reasons that putatively justify this claim.

With the remarks of 18b26-19a6, Aristotle also signals that it is time to turn to the refutation of his opponent's views. In the last part of the chapter, we will see how the Stagirite goes about this task.

## VI. *The Refutation of Fatalism*:

Aristotle's response to the fatalist comes in two stretches of text. In 19a7-22, we get a kind of *reductio* argument against

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(allegedly) justify this claim. To be more specific, in part VI I will argue that the Stagirite undermines the fatalist's position without importing any arguments directed against causal determinism. For further discussion of the connection between *DI*. 9 and *Met*. E. 3, see chapter 5.]

fatalism. And in 19a23-b4, the Stagirite finally explains what is the correct view to hold on the issue that has given rise to fatalism; *viz.* the apportionment of truth values among the members of antiphases of future singulars. I will examine these two passages in turn.

In 19a7-22, the Stagirite launches his attack on fatalism as follows:

> **[19a7]** But what if this is impossible? For we see that what will be **[8]** has an origin both in deliberation and in action, **[9]** and that, in general, in things that are not ever-active there is the capacity **[10]** of being and not being; here both possibilities are open, both being **[11]** and not being, and, consequently, both coming to be and not coming to be (ὁρῶμεν γὰρ ὅτι ἔστιν ἀρχὴ τῶν ἐσομένων καὶ ἀπὸ τοῦ βουλεύεσθαι καὶ ἀπὸ τοῦ πρᾶξαί τι, καὶ ὅτι ὅλως ἔστιν ἐν τοῖς μὴ ἀεὶ ἐνεργοῦσι τὸ δυνατὸν εἶναι καὶ μὴ ἐν οἷς ἄμφω ἐνδέχεται καὶ τὸ εἶναι καὶ τὸ μὴ εἶναι, ὥστε καὶ τὸ γενέσθαι και τὸ μὴ γενέσθαι). **[12]** Many things are obviously like this (καὶ πολλὰ ἡμῖν δῆλά ἐστιν οὕτως ἔχοντα). For example, this **[13]** cloak is capable of being cut up, and yet it will not be cut up but **[14]** will wear out first. But equally, its not being cut up **[15]** is also possible, for it would not be the case that it wore out first **[16]** unless its not being cut up were possible. So it is **[17]** the same with all other events that are spoken of in terms of this **[18]** kind of capacity. Clearly, therefore, not everything is or **[19]** happens of necessity: some things happen as chance has it, and of **[20]** the affirmation and the negation neither is true rather than the other; with other things it is one rather than the other and **[21]** for the most part, but still it is possible for the **[22]** other to happen instead (φανερὸν ἄρα ὅτι οὐχ ἅπαντα ἐξ ἀνάγκης οὔτ' ἔστιν οὔτε γίγνεται, ἀλλὰ τὰ μὲν ὁπότερ' ἔτυχε καὶ οὐδὲν μᾶλλον ἢ ἡ κατάφασις ἢ ἡ ἀπόφασις ἀληθής, τὰ δὲ μᾶλλον μὲν καὶ ὡς ἐπὶ το πολὺ θάτερον, οὐ μὴν ἀλλ' ἐνδέχεται γενέσθαι καὶ θάτερον, θάτερον δὲ μή).

As we have already seen, the fatalist maintains that (it is necessary that) in every pair of contradictory future singulars one member is true and the other false (***RCP***). Furthermore, we have seen that he argues to the effect that (a) of two contradictory predictions one *must* be true -- by ***RCP***, and (b) given that this particular prediction *is* true, then what is predicted cannot fail to come about. Putatively, if this much is right then it follows that the future is fixed, and that there is no use in deliberating about anything (18b27*ff*).[69] Aristotle's claim in the passage quoted above, however, is that the future is not fixed, and thus deliberation is not futile (19a7-9). To see how he reaches his conclusion we will need to pay close attention to the text.

In 19a9-11, Aristotle introduces, in a rather abbreviated form, a thesis which plays a key role in his discussions of the related issues of modality and determinism. In particular, he introduces the thesis that those entities which are 'not ever-active' (μὴ ἀεὶ ἐνεργοῦσι), as opposed to those which are ever-active, are capable of both 'being and not being, and, consequently, both coming to be and not coming to be'. As it is witnessed by other texts, what the Stagirite is trying to say in 19a9*ff* is roughly this.[70] There are certain entities, such as the sun and the other eternal bodies, which have these characteristics: (a) they have single capacities which are always actualized, and (b) it is impossible for them to ever stop exercising these capacities of theirs. For example, the sun has the capacity for only one kind of motion, *viz.* motion in a circle, and it is impossible for it to ever stop exercising this capacity. On the other hand, there are entities, like the transient individuals in the sublunary realm, which have the following characteristics:

> (1) They have double (passive) capacities. For example, this cloak here has the capacity to be cut up this afternoon, *or* not be cut up this afternoon.
> (2) The entities in this category may end up exercising either of the two options open to them.
> (3) No matter which option these entities may end up exercising, they cannot exercise it sempiternally.

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[69] See fn. 57.
[70] See fn. 71.

As Aristotle explains at several places, the main difference between these two classes of entities is this. The future of all ever-active entities is fixed. The sun has the capacity to move in its sphere, and it is not possible for it to ever cease doing so. Hence, it is safe to say that of the statements 'The sun will move in a circle tomorrow' - 'The sun will not move in a circle tomorrow', the former is now true whereas the latter is now false. On the other hand, the future of those entities which are not ever-active is open. Take the case of this cloak here; it has the capacity to wear out, but it does not have to do so -- it may be cut up before it wears out. And as we will soon see, the Stagirite takes it that the very nature of entities such as the cloak is what spells trouble for the fatalist's position.[71]

What we need to note at this point is that Aristotle's illustration of the claim that there are entities whose future is not fixed, *viz*. the case of the cloak, is problematic. To be more specific, in 19a12-6 the Stagirite says that there are many things which have double (passive) capacities. Take, for instance, this cloak here. According to Aristotle, it is possible for this cloak to be cut up, even if it is never cut up, but wears out first. As should be clear from 19a16-22, the point he is trying to bring out here is this. In the case of a transient thing, such as a cloak, it is not (metaphysically) fixed that it will wear out, or that it will be cut up instead. Putatively, in the case of the cloak both possibilities are now open. That is to say, neither of the two available options is (now) fixed.

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[71] Aristotle spells out the details of the distinction summarized here in a number of texts. See, for example, *De Caelo* (*DC*) Α. 2-3, Γ. 1, *GC* Β. 11, and *Met.* Ε.2, Θ. 8. This issue will be discussed in some detail in chapter 5. See also the discussion in chapter 1, esp. part **IV**.

The problem with the presentation of the cloak example, though, is that it is phrased in such a way that it does not do much to dispel the threat of fatalism. What Aristotle needs to do to rebut fatalism is to show that in the case of events which relate to things which are not ever-active there are no anterior truths available. In 19a12-4, however, he concedes to the fatalist one crucial point. He says that '... it is possible for this cloak to be cut up, and yet it *will not* be cut up but *will* wear out first'. In other words, he concedes that it is true that the cloak will wear out. Given this much, the fatalist can easily go on to reason that: it is *not* possible for this cloak to be cut up; in fact, given the truth of the statement 'This cloak will wear out', it follows that the relevant state of affairs is unpreventable.[72]

The fact that (the phrasing of) Aristotle's cloak example is problematic need not detain us here. What is important to note for our present purposes is that in 19a7-22 the Stagirite argues that: (a) fatalism has it that *everything* happens of necessity[73]; (b) if the fatalist is right, then there is no need to deliberate about anything -- deliberation requires that the future is open; (c) it should be evident, however, that there are cases where the future cannot be said to be fixed; namely, the cases where we have events relating to things which are not ever-active; (d) given that (c) is true, then it follows that deliberation is not pointless. What is also important to note here is that in 19a19-22 Aristotle states that the events which relate to things that are not ever-active, are divided into two categories:

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[72] One suggestion which might explain the problems with the case of the cloak, is that Aristotle is here confusing fatalism with determinism. Obviously, the cloak example works quite well in showing that the principle of plenitude does not apply in the case of transient things in the sublunary realm. That is, it shows that in their case we have unactualized possibilities. As was noted above, though, it is not clear at all how this example, as it is phrased in 19a12-16, may show fatalism to be problematic. For further discussion of the points brought up here, see Gaskin, 1995: ch. 7, and esp. pp. 54-61.

[73] See fn. 57.

(1) Events which happen 'by chance' (ὁπότερ ' ἔτυχε).
(2) Events which happen 'for the most part' (ὡς ἐπὶ τὸ πολύ).

In the final analysis, it seems that in 19a7-22 Aristotle takes it that it is self-evident that fatalism is a problematic thesis. As he repeatedly states in this passage, it is evident, presumably from sensory observation (ὁρῶμεν ... ὅτι), that there are certain future events, *viz*. those that involve entities that are not ever-active, which are not now determined.[74] What remains to be seen, of course, is how the Stagirite will employ the material in 19a7-22 to address the issue which has given rise to the whole discussion in *DI*. 9; namely, the issue of what is the correct view to hold concerning the apportionment of truth values among the members of antiphases of future singulars.

Before I move on to the final passage of *DI*. 9, *viz*. 19a23-b4, I would like to make a note concerning Gaskin's approach to 19a18-22. In his commentary on these lines, he expresses some concern regarding the statistical notions Aristotle introduces here. As was indicated above, in 19a18-22 the Stagirite states that (a) when it comes to things that happen by chance, '... of the affirmation and the negation neither is true rather than the other' -- οὐδὲν μᾶλλον ἢ ἡ κατάφασις ἢ ἡ ἀπόφασις ἀληθής (19a19-20), and (b) with other things 'it is one rather than the other and for the most part, but still it is possible for the other to happen instead' -- τὰ δὲ μᾶλλον καὶ ὡς ἐπὶ το πολὺ θάτερον, οὐ μὴν ἀλλ ' ἐνδέχεται γενέσθαι καὶ θάτερον, θάτερον δὲ μή (19a20-2). Gaskin takes it that the proponents of **C**, *and* **AR**, may assume that what is going on in 19a19-20 is this:

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[74] The situation here is quite similar to the one we get in *Met*. E. 3. That is, the Stagirite does not give us a full discussion of the claim that '(it is evident) that there are certain entities whose future is not fixed'. See also the discussion in chapter 1, esp. part IV. I will come back to this issue in chapter 5.

> ... 'μάλλον' (19a19) would mean 'rather than'; and the 'κατάφασις' and 'ἀπόφασις' would have to be understood as **FCSs**, since in the case of an antiphasis of the form 'A sea battle is taking place (has taken place) - a sea battle is not taking place (has not taken place)' one member *is* true rather than the other.
>
> (Gaskin, 1995: 37)

It seems to me, though, that no such reading of the text is needed. It should be clear from the material in 19a7-18 that Aristotle's concern here is with future statements concerning things which will happen by chance. Thus, I submit that what the Stagirite is trying to say here is that when it comes to such kinds of predictions it is not the case that the affirmation rather than the negation is (now) true (or false).[75] What Gaskin finds to be problematic, however, is 19a20-2. As he points out, the material in these lines seems to imply that Aristotle wants to say that there are some future antiphases where one member is true more often than the other. Then, he goes on to add that this claim is '... of course irrelevant as a move against the fatalist' (Gaskin, 1995: 38). In what follows, I will show that the material in 19a23*ff* can do two things. It can justify my reading of 19a19-20, and it can also show that 19a20-2 does *not* make a claim which is irrelevant to the argument *contra* fatalism.

Let us now turn to Aristotle's discussion in the last passage of *DI*. 9:

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[75] I will explain what this means when we get to the analysis of 19a23*ff*.

> **[19a23]** What is, necessarily is, when it is; and what is not, necessarily is not, **[24]** when it is not (τὸ μὲν οὖν εἶναι τὸ ὂν ὅταν ᾖ καὶ τὸ μὴ ὂν μὴ εἶναι ὅταν μὴ ᾖ ἀνάγκη). But not everything that is, necessarily is; and not **[25]** everything that is not, necessarily is not. For to say that everything that is, is of **[26]** necessity, when it is, is not the same as saying unconditionally(/unqualifiedly) that it is of necessity (οὐ γὰρ ταὐτόν ἐστι το ὂν ἅπαν εἶναι ἐξ ἀνάγκης ὅτε ἔστιν, καὶ τὸ ἁπλῶς εἶναι ἐξ ἀνάγκης). Similarly **[27]** with what is not. And the same account (ὁ αὐτὸς λόγος) holds for contradictories: **[28]** everything necessarily is or is not, and will be **[29]** or will not be; but one cannot divide (διελόντα) and say that one or the other is necessary. I mean, **[30]** for example: it is necessary for there to be or not to be a sea battle tomorrow; **[31]** but it is not necessary for a sea battle to take place tomorrow, nor for **[32]** one not to take place -- though it is necessary for one to take place or not to take place. So, **[33]** since statements are true according to how the actual things are, it is clear that **[34]** wherever these are such as to allow of contraries as chance has it, **[35]** the same necessarily holds for the contradictories also. This happens with **[36]** things that are not always so or are not always not so (ὅπερ συμβαίνει ἐπὶ τοῖς μὴ ἀεὶ οὖσιν ἢ μὴ ἀεὶ μὴ οὖσιν). With these it is necessary for **[37]** one or the other of the contradictories to be true or false -- not, **[38]** however, this one or that one, but as chance has it; or for one to be true *rather* **[39]** than the other, yet not *already* true or false (τούτων γὰρ ἀνάγκη μὲν θάτερον μόριον τῆς ἀντιφάσεως ἀληθὲς εἶναι ἢ ψεῦδος, οὐ μέντοι τόδε ἢ τόδε ἀλλ' ὁπότερ' ἔτυχεν, καὶ μᾶλλον μὲν ἀληθῆ τὴν ἑτέραν, οὐ μέντοι ἤδη ἀληθῆ ἢ ψευδῆ). Clearly, then, **[19b1]** it is not necessary that of every affirmation and opposite negation **[2]** one should be true and the other false (ὥστε δῆλον ὅτι οὐκ ἀνάγκη πάσης καταφάσεως καὶ ἀποφάσεως τῶν ἀντικειμένων τὴν μὲν ἀληθῆ τὴν δὲ ψευδῆ εἶναι). For what holds **[3]** for things that are does not hold for things that are not but may possibly **[4]** be or not be; with these it is as we have said (οὐ γὰρ ὥσπερ ἐπὶ τῶν ὄντων οὕτως ἔχει καὶ ἐπὶ τῶν μὴ ὄντων, δυνατῶν δὲ εἶναι ἢ μὴ εἶναι, ἀλλ' ὥσπερ εἴρηται).

According to G. Fine, who advocates a version of **S**[76], the key to understanding what Aristotle is trying to do in 19a23-b4 is to be found in the first five lines of the passage.[77] She notes that in 19a23-7 the Stagirite considers four claims:

(1) It is necessary that what is, when it is, is.
(2) It is necessary that what is not, when it is not, is not.
(3) Of what is, it is necessary without qualification that it is.
(4) Of what is not, it is necessary without qualification that it is not.[78]

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[76] See Fine, 1984: esp. pp. 34-5.

[77] What follows in the next few paragraphs is a summary of Fine, 1984: 24-37.

[78] This, *viz.* (1)-(4), is how Fine analyses 19a23-7; see Fine, 1984: 24. At this point, I would like to note that her analysis of the text is at best inaccurate. I will explain what the correct reading of 19a23-7 is later on.

Putatively, what Aristotle wants us to see here is that (1) is a statement of *necessitas consequentiae*, whereas (3) is a statement of *necessitas consequentis*. That is to say, he wants us to see that (1) is to be read as

(5) Necessarily (if *p* then *p*).

whereas (3) is to be read as

(6) If *p* then necessarily *p*.[79]

To support the claim that this is what Aristotle is trying to do in 19a23-7 Fine goes on to point out two things. First, she notes that it should be clear that the Stagirite considers (1) to be a statement which expresses qualified necessity. To be more specific, she contends that we can gather this much from 19a25-6, where Aristotle plainly states that the necessity expressed by (1) is to be contrasted with unconditional/unqualified necessity. And second, she cites a couple of places in the *corpus*, where Aristotle seems to indicate that: (a) the logical representation of qualified necessity is: 'Necessarily (if *p* then *q*)', and (b) the logical representation of unconditional necessity is: 'Necessarily *p*'.[80]

Naturally, the question that arises here is this: 'What does this discussion concerning the logical form of modal statements have to do with the problem of fatalism?'. Fine goes on to argue that what we need to notice at this point is that in 19a23-7 Aristotle is essentially trying to draw our attention to a logical mistake. To be more specific, her thesis is this. In 19a23-7, the Stagirite tells us that many times we are faced with sentences of the form 'if *p* then necessarily *q*'. Apparently, this sentence may be read in two different ways; it can be read as a statement of *necessitas consequentiae*, or as a statement of *necessitas consequentis*. Aristotle's warning is that if we read it as *necessitas consequentiae* then, given *p*, one may infer that *q*, but *not* that *q* is necessary. That is to say, his warning is that under this reading of the first premise, we cannot validly infer that *q* is 'unconditionally/unqualifiedly' (ἁπλῶς) necessary. In more detail, Fine's claim is that the purpose of 19a23-7 is to warn us against two forms of fallacious arguments:

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[79] Likewise, (2) is a statement of *necessitas consequentiae* and is to be read as 'Necessarily (if not-*p* then not-*p*)', and (4) is a statement of *necessitas consequentis* and is to be read as 'If not-*p* then necessarily not-*p*'.

[80] The texts Fine uses to this purpose are *Prior Analytics* (*APr.*) A. 10. 30b31-40, and *Phys.* B. 9. 200a15-22. For further details on her discussion of these texts, see Fine, 1984: 27-9.

(I) Necessarily (if *p* then *p*)
*p*
―――――――
∴ Necessarily *p*

(II) Necessarily (if not-*p* then not-*p*)
not-*p*
―――――――
∴ Necessarily not-*p*

What remains to be seen, of course, is how this much relates to the material in 19a27*ff* and the problem of fatalism.

Fine points out that 19a27-32 begins with the claim that 'there is the same argument (ὁ αὐτὸς λόγος) with the contradiction'.[81] Furthermore, she notes that in 19a28-32 Aristotle goes on to consider statements of the form:

(7) Necessarily (*p* or not-*p*)

Putatively, his contention in the passage under consideration is that when it comes to statements like this we need to guard against some illicit forms of inference. In particular, he warns us that one cannot 'divide' (διελόντα) (7), and say that '... one or the other is necessary' (19a29). According to Fine, what the Stagirite is trying to say here is this. From (7) and the truth of '*p*' one may infer '*p*', but not 'necessarily *p*'. And similarly, from (7) and the truth of 'not-*p*' one may infer 'not-*p*', but not 'necessarily not-*p*'. More precisely, Fine's proposal is that in 19a27-32 Aristotle is trying to warn us that we should guard against the following forms of invalid inference:

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[81] This is Fine's own translation of 19a27-8; see Fine, 1984: 29.

**(III)** Necessarily (*p* or not-*p*)
*p*
————————
∴ Necessarily *p*

**(IV)** Necessarily (*p* or not-*p*)
not-*p*
––––––––
∴ Necessarily not-*p*

Finally, Fine adds to this that Aristotle is perfectly justified to say that the argument we get in 19a27-32 is the same as the one we get in 19a23-7. As she proceeds to claim, this is so because (a) the second premisses and conclusions of (**I**) and (**III**), and of (**II**) and (**IV**), are the same, and (b) if conditionals are equivalent to disjunctions, then it is also the case that the first premiss of (**I**) implies, or is equivalent to, the first premiss of (**III**), and the first premiss of (**II**) implies, or is equivalent to, the first premiss of (**IV**).[82]

After stating this much, Fine goes on to deal with 19a32-9. She notes that in this passage Aristotle draws our attention to statements of the form:

(8) Necessarily (*p* is true or not-*p* is true)

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[82] For further details on (a) and (b), see Fine, 1984: 30.

Then, she goes on to claim that in 19a32-9 the Stagirite warns us against two other forms of invalid inference:

(**V**) Necessarily (*p* is true or not-*p* is true)
*p* is true

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∴ *p* is necessarily true

(**VI**) Necessarily (*p* is true or not-*p* is true)
not-*p*

---

∴ not-*p* is necessarily true

In other words, her contention is that the point Aristotle is trying to make in 19a32-9 is that (**V**) and (**VI**) ought to be rejected because they commit the same kind of modal fallacy found in (**I**)-(**VI**). As she puts it, the modal operator 'has again been illicitly transferred from a disjunction to its individual disjuncts' (Fine, 1984: 32).

The next question we need to consider is how Fine's analysis of 19a23-39 relates to what Aristotle is supposed to be doing here. That is, we need to see how this passage, under Fine's interpretation, may be construed as a response to the fatalist. Fine begins to address this issue by considering the following question: 'Why does Aristotle illustrate the same fallacy three times?'. Her answer is that in 19a23-32 Aristotle is 'softening us up' (Fine, 1984: 32). As she points out, it is relatively easy to see that (**I**)-(**IV**) are fallacious. (**V**) and (**VI**), however, may be mistaken for valid inferences. As we have seen, (**V**) and (**VI**), unlike (**I**)-(**IV**), make explicit mention of truth. Thus, one '... may be tempted - indeed, many have been tempted - to suppose that considerations of truth do have fatalistic implications, that one can move from truth to necessity' (Fine, 1984: 32). In 19a32-39, Fine claims, Aristotle shows us that this temptation is to be resisted. In this passage he argues that given the fact that (**I**)-(**IV**) are fallacious, then it follows that (**V**) and (**VI**) are also fallacious. In short, Fine's thesis is this. If one accepts that (**V**) and (**VI**) are valid inferences, then one is only a short step away from fatalism. That is, if we substitute '*p*' - 'not-*p*' in (**V**) and (**VI**) with '*Fp*' - '~*Fp*', then these two inferences seem to lead us from a disjunction of two future statements to the necessary truth of one of these statements. And Aristotle's response, according to Fine, is that to guard against the threat of fatalism we need to be aware of the fact that (**V**)-(**VI**), like (**I**)-(**IV**), are invalid inferences.[83]

Fine's reconstruction of 19a23-39 may appear to be quite plausible. The fact of the matter, however, is that it faces a number of problems. I will not attempt to rehearse all of these difficulties here.[84] I think that what is sufficient to point out is that her reconstruction of 19a23-39 falls apart as soon as one attempts to place it in the context of the discussion in *DI*. 7-9. The textual evidence suggests that *DI*. 9 is a continuation of the discussion in *DI*. 7-8. That is, the collective textual evidence suggests that in this chapter Aristotle intends to show that there is one more exception to ***RCP***; *viz*. antiphases which are composed of future singular statements. Furthermore, we have seen that the Stagirite clearly states that he is to achieve his intended goal by showing that if we *do* accept that ***RCP*** holds of future singulars, then we will be forced to embrace fatalism along with all its absurd consequences. In other words, all the indications are that Aristotle does *not* think that the fatalist's argument is invalid. From the analysis of 18a28-19a23, it should be evident that what he finds to be problematic is the key premiss in the fatalist argument: the claim that ***RCP*** holds unqualifiedly of future singulars. Hence, if this much is right then it would seem that Fine's analysis cannot be right. That is, it seems to fail to reconstruct the text in a way which conforms to the announced purpose of the chapter in 18a28-35. In fact, it leaves intact the one thing Aristotle *explicitly* says he is not willing to grant the fatalist: The claim that ***RCP*** holds (unqualifiedly) of future singulars.

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[83] For further details on the part of Fine's argument described in this paragraph, see Fine, 1984: section V, and esp. pp. 32-3.

[84] Quite a few of these difficulties are discussed in some detail in Gaskin, 1995: ch. 4, esp. pp 32-3; ch. 5, esp. pp. 36-7, 44-6.

How are we, then, to understand Aristotle's discussion in 19a23-b4? To make sense of what is going on in this last passage of *DI*. 9, we need to remind ourselves of the elements of the argument leading up to this point. In the opening paragraph of *DI*. 9, *viz*. 18a28-33, the Stagirite tells us that ***RCP*** does not apply unqualifiedly to future singulars. In 18a34-b16, he proceeds to explain that if one accepts that this rule *does* hold of future singulars unqualifiedly, then one will also have to accept that the future is fixed. What is particularly important to keep in mind, though, is what Aristotle has to say in 18b26-19a22. In 18b26-33, he presents us with a kind of lazy argument: if the fatalist is right, *viz*. if the universal applicability of ***RCP*** entails that the future is fixed, then there is no need to deliberate or take trouble over anything. And in 19a7-22, he goes on to assert that deliberation is a genuine cause of future events. He claims that what shows us that deliberation is not pointless is the fact that observation reveals that there are many things in the world which will not happen of necessity (19a18-9). To be more specific, Aristotle's argument in 18b26-19a22 is this. If the fatalist is right, that is to say if the future is fixed, then there is no need to deliberate. Deliberation requires that the future is open. But it is evident that the fatalist cannot be right. Obviously, there are all sorts of things which will not happen of necessity; *viz.* the events which involve entities that are not ever-active. Hence, deliberation is not pointless.

To put things in slightly different terms, it would seem that by 19a22 Aristotle has provided us with a *reductio* argument against fatalism. That is, the Stagirite appears to think that his audience can see that (a) it is evident that there are many things which do not happen of necessity, *viz.* the events which involve the transient things in the sublunary realm, and (b) if (a) is true, then it should be clear that the fatalist's thesis, that the future is fixed, is untenable. Now, if the fatalist's thesis is untenable, then the basis for his argument, *viz.* the claim that ***RCP*** holds of future singulars unqualifiedly, must be problematic. Given this much, it is natural to expect that in 19a23*ff* we will get an argument which explains what is the correct way to apportion truth values among contradictory future singulars.

What seems to be the greatest source of puzzlement for the interpreters of *DI*. 9. 19a23-b4 are the lines 19a23-7. Gaskin suggests that in this passage, and in particular in 19a23-4, Aristotle gives us his own statement of a claim which he accepts from the fatalist: if it is *now* true that *Fp*, then it is *now* unpreventable that *Fp*. That is to say, Gaskin suggests that the Stagirite is here expressing his agreement with the fatalist on the claim that the present is necessary.[85] I do not intend to challenge Gaskin's assertion that Aristotle *does* endorse the thesis that the present (and the past) are necessary.[86] At the same time, though, I am not prepared to concede that this is what is at the core of the fatalist argument in *DI*. 9. As was explained earlier on, there is no point in the presentation of the fatalist argument(s) in 18a34-b16 where the thesis of the necessity of the present (or the past) gets utilized. Hence, I submit that it is a mistake to take the material in 19a23-4 to be Aristotle's own statement of one of the premisses in the fatalist argument.

What I think Aristotle is trying to say in 19a23-7 is this. Where he states that 'what is, necessarily is, when it is' (19a23), I propose that we read: if a state of affairs obtains now, then this state of affairs is necessary in the sense that it is irrevocable. Furthermore, I would like to suggest that the reason he brings up the necessity of the present, is not so that he can give his own version of a premiss in the fatalist argument. The reason he brings up the issue of this kind of necessity, which (for our present purposes) we may label as 'qualified necessity', is so that he can contrast it with 'unconditional'/'unqualified' (ἁπλῶς) necessity. To be more specific, in 19a23-7 the Stagirite *explicitly* states that the fact that something is qualifiedly necessary does not mean that it is also unconditionally necessary (19a25-6). The question that remains to be addressed, of course, is this: 'What role does this point play in the context of *DI*. 9. 19a23*ff*?'.

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[85] See Gaskin, 1995: 46-8, and chs 8 & 9.

[86] Gaskin examines a number of places in the *corpus*, other than *DI*. 9 (19a23*ff*), where the Stagirite appears to express his commitment to the thesis of the necessity of the present; see Gaskin, 1995: ch. 9. Although I don't think that all of these texts succeed in advancing Gaskin's cause, I have to concede that at least some of them, *viz*. *Rhetoric* (*Rhet*.) Γ. 17. 1418a4-5 and *Met*. Ε. 3, show that Aristotle was indeed committed to this controversial thesis.

To answer the question just posed, we need to return, for a moment, to the discussion in 19a7-22. As we have already seen, in this passage Aristotle makes his distinction between (a) things which will happen of necessity, *viz*. future events which involve the entities in the cosmos that are ever-active, and (b) things which will not happen of necessity, *viz*. the events which involve the transient entities in the sublunary realm.[87] Furthermore, we have seen that he divides the events which do not happen of necessity into those which happen 'by chance' (ὁπότερ ' ἔτυχε), and those which happen 'for the most part' (ὡς ἐπὶ τὸ πολύ). What I would like to submit here is that the point the Stagirite is trying to make in 19a23-7 is this. It is true to say that things which happen for the most part, or by chance, when they *do* obtain, are necessary in the sense that they are irrevocable. At the same time, though, we need to guard against a serious mistake. The fact that a chance or for the most part event may be said to be necessary when it *does* obtain does not mean that that event is unconditionally necessary. To see what this means, we have to briefly consider the nature of the events

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[87] See fn. 71.

Aristotle classifies under the category of things which will happen of necessity. Take, for example, the case of a heavenly body such as the sun. Apparently, the Stagirite holds that it is now, and in fact at all times, 'unconditionally necessary' that the sun will be in (circular) motion tomorrow morning. And as he points out in *Generatione et Corruptione* (*GC*) B. 11, to say that it is now unconditionally necessary that the sun will be in (circular) motion tomorrow is to say that the aforementioned state of affairs is now unpreventable.[88] On the other hand, however, it is not now unpreventable that there will be a sea battle tomorrow, or that this cloak will be cut up later on today.

To spell things out a bit, my suggestion is that in 19a23-7 Aristotle advances the following thesis: chance and for the most part events, *viz*. events which involve entities that are not ever-active, can be said to be necessary in the sense that when they *do* occur, they are irrevocable. These kinds of events, however, are not unconditionally necessary. That is to say, they are not the kind of events which may be said to be unpreventable. For example, it is not now unpreventable that there will be a sea battle tomorrow. As Aristotle points out elsewhere, e.g. in *GC* B. 11, this kind of necessity is restricted to a specific kind of events; namely, events which relate to things that are ever-active.[89]

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[88] It is quite clear from the discussion in *GC*. B. 11 that Aristotle considers the necessity/unpreventability of the sun's future motion to be a kind of unqualified/unconditional necessity; see esp. *GC*. 337b10-338b5. I will come back to this issue in chapter 5.

[89] See fn. 88.

If this is the distinction Aristotle has in mind in 19a23-7, then what *exactly* does he mean when he says that 'the same account holds for contradictories' (19a27-8)? As we have seen, Fine's interpretation provides us with an answer to this question. The standard versions of **AR** and **C**, however, have a problem with accommodating the opening sentence of 19a27-32.[90] That is, they have a problem showing how the discussion in 19a23-7, which is meant to be part of the answer to the fatalist, contains a line of reasoning which is of the same kind as the one found in 19a27-32. It seems to me, though, that we can readily provide a reading for this last passage which makes sense of the remark at 19a27-8. What I would like to propose is that the Stagirite's intention in 19a27-32 is to make the following point. It is certainly the case that it is necessary that either a sea battle will take place tomorrow or that a sea battle will not take place tomorrow. On the other hand, it should be noted that it is not legitimate to 'divide' (διελόντα) and say that it is necessary that this state of affairs will obtain, or that it is necessary that it will not obtain. Dividing will be tantamount to attributing unconditional necessity to that state of affairs. In other words, if we assume that it is now necessary that a sea battle will take place tomorrow, or that it is necessary that it will not take place, then we have to accept that the relevant event is unconditionally necessary. That is, we have to accept that the

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[90] See Gaskin, 1995: 44-7. [Gaskin notes that the best the advocates of **AR** and **C** can do with 19a23-32, is to say that: (a) in 19a23-7, Aristotle gives his own statement of one of the fatalist's premisses, and (b) in 19a27-32, Aristotle is yet to get to the solution of the problem of fatalism; in these lines, he merely makes the distinction between ***LEM*** and ***PB***, so that he can proceed later on to accept the former and reject/restrict the latter.]

(future) event in question is now unpreventable. As we have seen, however, Aristotle is prepared to attribute this kind of necessity to only one class of events, namely, events which involve entities that are ever-active. And clearly, a sea battle is not an event which belongs to this category.

To sum-up, my proposal is that the connection between 19a23-7 and 19a27-32 is this. In the first passage, Aristotle warns us against the mistake of taking a chance or for the most part event to be absolutely necessary. Such events are necessary only in the sense that when they *do* occur they are irrevocable. In other words, they can be said to be qualifiedly necessary, when they *do* occur, but they cannot be said to be unpreventable and thus unconditionally necessary. For Aristotle, this latter kind of necessity belongs only to events which involve the ever-active things in the cosmos. In 19a27-32, the Stagirite goes on to point out that it is necessary that a state of affairs such as a sea battle will either obtain or will fail to obtain. Furthermore, he warns us that it is wrong to divide. In other words, he warns us that we should guard against the mistake that the fatalist seems to commit, namely, the mistake of taking it that it is necessary that the sea battle will take place, or that it is necessary that it will not take place. To do this is to ascribe to the relevant state of affairs a kind of necessity it does not have, namely, unconditional necessity. For Aristotle, a sea battle, and all other events which relate to entities which are not ever-active, cannot be said to be unconditionally necessary. In short, it is my suggestion that in both 19a23-7 and 19a27-32 the

Stagirite's argument is intended to establish the same claim. We should guard against the mistake that the fatalist seems to commit; *viz.* the mistake of attributing unconditional necessity to events which involve entities that are not ever-active.

Now that we have taken care of 19a27-32, it is time to turn to 19a32-9. What I think is important to note here is the first sentence of the passage: '... since statements are true according to how the actual things are, it is clear that wherever these are such as to allow of contraries as chance has it, the same necessarily holds for the contradictories also' (19a33-5). The suggestion I would like to put forward here is this. In 19a32-6, the Stagirite says that:

> (i) A true statement matches the way things are. That is to say, a true statement corresponds to a relevant state of affairs; *viz.* a division or combination of things in the world.[91]
>
> (ii) As was explained earlier on, *viz.* 19a7-32 and 19a23-32, there are many things which do not happen of necessity. That is, there are many events which happen by chance or for the most part; *viz.* all the events which relate to things which are 'not always so or ... not always not so' (19a35-6).[92] So, if a thing is such that its future is not fixed, that is to say if it is such that both of two available possibilities are open for it, then, given (i), this fact must be reflected in the apportionment of truth values to the members of the antiphasis which relates to it.

Accordingly, in 19a35-9 Aristotle goes on make the following claim. With these kinds of future contradictories, *viz.* the ones relating to things which are not ever-active, '... it is necessary for one or the other ... to be true or false -- not, however, this one or that one, but as chance has it; or for one to be true *rather* than the other, yet not *already* true or false' (19a36-9). What we need to do next is to determine what Aristotle is trying to say in these lines.

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[91] Essentially, this is an abbreviated statement of Aristotle's theory of truth. This was discussed in the latter half of part III.

[92] I take it that Aristotle intends this to be another description for things which are not ever-active.

In 19a36-7, Aristotle seems to be making the claim that when it comes to a pair of future contradictory statements which deal with things that are not ever-active, it is necessary that one is true and the other false. Then, he goes on to make two further statements. First, if what we are faced with is an antiphasis of future statements that relate to something that happens by chance, then we cannot say that *this* particular member is true and *this* particular member is false (19a37-8). Apparently, his claim here is that in such an antiphasis it is not metaphysically fixed which member is true and which one is false. Second, if what we are faced with is a pair of future contradictories that relate to something that happens for the most part, then we can say that one member is more likely to be true than the other. The fact of the matter, however, is that even in such an antiphasis it is not now metaphysically fixed that one member is true and the other is false. It might very well be the case that one member is more likely to be true than the other, but it is not *yet* true (19a38-9). The kind of event it describes may fail to obtain; we are, after all, talking about an event which does not happen of necessity.

If this is what is going on in 19a36-9, then we need to explain what Aristotle means by saying that with antiphases of the kind described above it is necessary that one member is true and the other is false (19a36-7). Obviously, he cannot possibly mean that it is *now* the case that one member of such an antiphasis is true and the other false. This would be to concede that ***RCP*** does hold of future singulars, and that the fatalist's account of the shape of things future is correct. Furthermore, it should be clear that the material in 19a37-9 is an outright rejection of this. Thus, what I would like to submit is that to make sense of 19a36-7 we need to read it as part of the line of thought contained in 19a36-9. That is, we need to read this passage as saying that: (a) of a pair of future contradictories, where these are statements dealing with things which are not ever-active, we may say that it is necessary that one is true and the other false, in the sense that it is necessary that one member will turn out to be true whereas the other will turn out to be false; (b) at the same time, however, it should be noted that it is not now metaphysically fixed which member of the antiphasis is true and which one is false.

Given what was said above, it would seem that in the end Aristotle *does* want to solve the problem of fatalism by curtailing the applicability of ***PB***. As we have just seen, in 19a36-9 he states that some future statements are not now true or false. And apparently, if this suggestion is accepted, then one may easily block the key premiss in the fatalist's argument, *viz.* the claim that ***RCP*** applies to future singulars unqualifiedly. In other words, the line of reasoning I want to attribute to Aristotle is this:

> (i) To block fatalism we need to adapt ***RCP*** with respect to future statements which deal with entities which are not ever-active.
> (ii) This can be achieved if we adapt ***PB*** with respect to such statements. That is to say, it can be done if we assume that when it comes to future singulars dealing with things which are not ever-active, we cannot say they are now either true or false.
> (iii) If we adapt ***PB*** as suggested above, then we can claim that ***RCP*** applies to future singulars only in a qualified manner. That is, although it is necessarily the case that of the pair *'Fp'* - *'~Fp'* one will turn out to be true and the other false, we cannot *now* apportion truth values to them.

It should be noted, however, that this thesis is strongly resisted by one of the most recent commentators.[93] In his study on *DI.* 9, Whitaker gives an interpretation of 19a36-9 which is, in its main points, in agreement with the reading of the text suggested here. Most importantly, he maintains, as I do, that: in a pair of future contradictories that deal with events which happen by chance or for the most part, it is necessary that one will turn out true and the other false; however, it is not (now) metaphysically fixed which member of the antiphasis is true and which is false. Nevertheless, Whitaker insists that this much has no implications whatsoever for the applicability of ***PB*** to this kind of statements. I am at a loss, however, to understand how he can possibly claim that in such an antiphasis it is not metaphysically fixed which member is true and which is false, without also having to say that these statements are now such that neither of them is true or false.[94]

As Whitaker notes, the thesis that for Aristotle the members of an antiphasis of future statements are not true or false, seems to contradict what Aristotle says elsewhere about ***PB***. As is well known, there are a number of places where the Stagirite firmly asserts that all statements are either true or false.[95] What we need to keep in mind, however, is that the textual evidence in 19a36-9 seems to strongly suggest that Aristotle is prepared to curtail the applicability of ***PB***. That is to say, given the textual evidence in *DI.*

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[93] The material about to be discussed in the next two paragraphs is a summary of Whitaker, 1995: 125-7.

[94] A similar objection to Whitaker's claim may be found in Gaskin, 1995: 167-8, fn. 80. See also Panayides, 1999b.

[95] See the references in Whitaker, 1996: 126.

9, we have no choice but to accept that the Stagirite is not willing to uphold this principle for all statements. At the same time, though, we need not saddle Aristotle with an outright contradiction. What we need to assume here is that he only wants to adapt this principle as follows: it is not the case that the members of the antiphasis '*Fp*' - '~*Fp*' lack truth values altogether; it is rather the case that neither of them is now definitely true or false.[96] And apparently, this is pretty much in line with what Aristotle *does* say in the text; namely, that in the kind of antiphasis we are concerned with, it is not yet metaphysically fixed which member is true and which false.

What we need to point out here is that the suggestion just made has had its fair share of critics. For example, both Whitaker and Fine claim that it cannot be the case that Aristotle's intention in 19a36-9 is to say that future predictions, of the appropriate kind, are not *yet* true or false. As they note, the advocates of **C** have supported this claim by pointing out that the Stagirite explicitly states so in 19a39. They urge us to notice, however, that the textual evidence seems to actually tell against such an interpretation of 19a36-9. They argue that in the sentence where Aristotle is supposed to be claiming that future statements are not yet true or false, the focus is on only one of the two classes of statements which deal with entities which are not ever-active, *viz.* those statements which deal with things which happen for the most part. From this much, Whitaker and Fine go on to conclude that there is good reason to think that this is not Aristotle's view on future singulars. To be more specific, they claim that if he *did* want to say that future singulars are not yet true or false, then he would have stated this much for both kinds of future contingents.[97] It seems to me, though, that this objection to **C** is a bit hasty. What we need to keep in mind here is that in 19a37-8, where Aristotle refers to statements that deal with things which happen by chance, he states that it is necessary that one of them is true and the other false, but not 'this one or that one'. In my view, there is only one way to understand this comment. When it comes to statements dealing with things which happen by chance, it is necessary that one member will turn out to be true and the other false. It is not now determined, however, which one is true and which one is false. If this much is right, then I think that Aristotle's position is that in the case of both kinds of future statements, the members of an antiphasis are not yet true or false.

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[96] This is essentially what is at the heart of the **C** interpretation of 19a36-9; see Gaskin, 1995: ch. 12. I suspect that the claim that a future singular statement '*Fp*' is not definitely true or false, ought to be construed as a claim to the effect that '*Fp*' is potentially true or false.

What we need to do to wrap up the discussion of *DI*. 9, is to see what the Stagirite has to say in the closing lines of the chapter. As he points out, it is not necessary that 'of every affirmation and opposite negation one should be true and the other false' (19a39-b2). In other words, he is here saying that ***RCP*** does not hold of all statements. And finally, he proceeds to remind us that this principle does not apply unqualifiedly to future singulars, for reasons which have just been explained (19b2-4).

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[97] For further details on the Fine/Whitaker objection to **C** just described, see Fine, 1984: 33-4, and Whitaker, 1996: 123-4.

# CHAPTER 3

## *Aristotle and the Megarians*

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### I. *Introduction*:

We have so far examined two texts, *viz*. *Met*. E. 3 and *DI*. 9, where Aristotle deals with the closely related issues of modality and determinism. Putatively, the next major piece of text where the Stagirite discusses these issues is *Met*. Θ. 3. In *Met*. 1046b29-32, he tells us that:

> **[b29]** There are some people, like the Megarians, who maintain that something **[30]** has a capacity [to do something] only when it is acting, and that when it is not acting it does not have this capacity (εἰσὶ δέ τινες οἵ φασιν, οἷον οἱ Μεγαρικοί, ὅταν ἐνεργῇ μόνον δύνασθαι, ὅταν δὲ μὴ ἐνεργῇ οὐ δύνασθαι). For example, the **[31]** man who is not building does not have the capacity to build (οἷον τὸν μὴ οἰκοδομοῦντα οὐ δύνασθαι οἰκοδομεῖν). But it is only the man who is building, **[32]** when he does so, that has the capacity to build (ἀλλὰ τὸν οἰκοδομοῦντα ὅταν οἰκοδομῇ). Likewise in the case of other things (ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων).

Apparently, what Aristotle is trying to say here is that the Megarians, whoever these are[1], subscribe to the following thesis: '$x$ has the capacity (δύναμις) to φ, if and only if $x$ is actually φ-ing'.[2] In the remainder of *Met*. Θ. 3, the Stagirite goes on to do two things. First, he claims that the Megarian thesis is untenable. And second, he presents arguments in support of this claim.

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[1] The Megarians of *Met*. Θ. 3 are yet to be identified with any known school of thought. I will make some suggestions towards resolving this puzzle in parts **II-III**. For a general discussion of the Megarians, see Kneale & Kneale, 1988: ch. 3, esp. pp. 113-128.

[2] What I think we need to note at this point is that, for Aristotle, '$x$ has the capacity (δύναμις) to φ' is not equivalent to 'it is possible for $x$ to φ'. I will discuss this point in some detail in part **II**. See also fn. 8.

As some of the commentators have noted, the thesis advocated by the Megarians seems to be (somehow) connected to the issue of determinism. Thus, it is not uncommon to see claims in the literature to the effect that *Met.* Θ. 3 is an attempt by Aristotle to rebut yet another argument for determinism.[3] Before we go on to consider these claims, however, I think it is important to clarify some things regarding the place of *Met.* Θ. 3 in the *corpus*. To be more specific, I think it is imperative that we say a word or two concerning the role of this chapter in the context of *Met.* Z-Θ.

As is well known, the discussion in the central books of the *Metaphysics* revolves around the question of what is a substance. In the process of this inquiry Aristotle suggests, among other things, that (a) substance is form[4], and (b) matter is potentiality/capacity (δύναμις)[5], whereas form is actuality (ἐνέργεια).[6] The interpretation of these claims, as well as that of the arguments Aristotle presents in their support, is a notoriously difficult matter. Fortunately, all we need to notice here is that the Stagirite introduces (a) and (b) in *Met.* Z-H without any prior treatment of the concepts of capacity and actuality. Now, one of the few things which is uncontroversial about the reconstruction of *Met.* Z-Θ, is that the material in Θ is meant to fill this particular gap. That is, it is meant to provide the detailed discussion of actuality and capacity that is missing from

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[3] See, for example, Aquinas, 1961: 663-669, Bosley, 1998, Williams, 1986: 183.

[4] See, for example, *Met.* Z. 17.

[5] See, for example, *Met.* H. 2. 1042b9-10. Note that where Aristotle says that this specific bit of matter $x$ is 'potentially' (δυνάμει) $\phi$, he means to say that $x$ has the 'capacity' (δύναμις) to be $\phi$; or, if you prefer, $x$ is in the state of having the capacity to be $\phi$. Hence, I take it that '$x$ is potentially $\phi$'/'$x$ has the potentiality to be $\phi$' is equivalent to '$x$ has the capacity to be $\phi$'.

[6] See *Met.* H. 3. 1043a29*ff*.

*Met*. Z-H. What seems to be also clear is that *Met*. Θ is intended to resolve some of the difficulties that arise out of claims (a) and (b) within the context of *Met*. Z-H.[7]

Given the above, it would appear that the discussion of the Megarians in *Met*. Θ. 3 is above all part of the treatment of substance initiated in *Met*. Z-H. And there are indeed a number of pieces in the recent literature which attempt to show how *Met*. Θ. 3 fits into the extended treatment of substance in the central books of the *Metaphysics*.[8] Having said this much, however, I think we need to acknowledge that there is merit to the claim that *Met*. Θ. 3 is also designed to say something about the issue of determinism. It is, so to speak, an attempt by Aristotle to take a stab at his determinist opponents on his way to taking care of another matter.

This chapter will focus exclusively on the suggestion that there are connections between *Met*. Θ. 3, as well as the surrounding chapters, and the problem of determinism. To anticipate briefly, what I propose to do is to address two closely related questions:

(1) What is the connection between determinism and the thesis of *Met*. 1046b29-32?

(2) What *exactly* is Aristotle's quarrel with the Megarians of *Met*. Θ. 3?

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[7] Apparently, one of the problems that (a) and (b) give rise to within the context of *Met*. Z-H is this. If substance/form is the actuality of a certain capacity, then it will turn out to be the case that the musical Coriscus and (the unmusical) Coriscus are different substances. As T. Irwin points out, one of the aims of *Met*. Θ is to remove this difficulty by fully explaining capacity and actuality, and by restricting them in the appropriate ways; see Irwin, 1988: ch. 11. See also Gill, 1989: chs 5-6, and Witt, 1989.

[8] One of the suggestions that I find to be plausible is that: (a) the discussion of the Megarians is ultimately intended to highlight the claim that natural capacity ought not to be identified with possibility, and (b) if it is indeed the case that possibility is not capacity, then Aristotle can successfully defend the thesis that form is the actuality of a certain capacity. For more details on this suggestion, see Ide, 1990, and Irwin, 1988: esp. pp. 227-230. See also fns 7 & 2.

There is also the question of how the discussion in *Met*. Θ. 3 relates to the Stagirite's overall treatment of modality and determinism. The discussion of this issue, however, will be postponed for the concluding chapter of this project.[9]

## II. *On Megarian Determinism, part 1*:

As W.D. Ross points out, one of the difficulties with the interpretation of *Met*. Θ. 3 is that apart from the reference at 1046b29-32 'we have no information about Megaric views earlier than those of Diodorus Cronus' (Ross, 1958: 244). To be more specific, it seems that: (a) there is no overlap between the work of Diodorus and Aristotle; apparently, the former was active well after the Stagirite's death[10], and (b) the only information we have about the early, *viz*. pre-Diodorean, Megaric school is what we get at 1046b29-32. In short, all we have to go on in the attempt to reconstruct the views of the early Megarians is the information in *Met*. Θ. 3. And admittedly this is not much.

If we assume that in *Met*. Θ. 3 Aristotle makes an honest effort to be an objective historian of philosophy, then what we have at hand is the point outlined in part **I**. That is, the early Megarians advocate the view that an entity $x$ has the capacity to $\phi$ only if it is actually $\phi$-ing; and, if $x$ is actually $\phi$-ing then $x$ has the relevant capacity. Aristotle's first comment on this thesis is that it is obviously untenable.[11] And a contemporary reader of the text is very likely to have a similar reaction. Take, for instance, the case of a native speaker of French such as Jean Chretien. The fact that Chretien speaks French at time *t* but is silent at a subsequent time *t'*, does not mean that at *t'* he lacks the capacity to speak French. If we suppose that at *t'* Chretien loses his capacity to speak French, then we will be faced with a couple of serious problems. First, we will have to explain why he loses this capacity at *t'*. And second, we will have to explain how he re-acquires it at the subsequent time *t''*, *viz.* a later time at which he resumes speaking French. Thus, the plausible thing to do is to assume that Chretien has the capacity to speak French even when he does not exercise it. In fact, we take it that what explains his speaking French at *t''* is the fact that at *t'* he retains the capacity to do so.[12,13] Hence, there arises the main puzzle about the view advocated by the early Megarians. Why would they maintain a thesis which, at first sight at least, appears to be rife with difficulties?

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[9] See chapter 5.

[10] This much has been established by D. Sedley; see Sedley, 1977.

[11] *Met*. Θ. 3. 1046b32-3.

In his commentary on *Met.* Θ. 3, Ross makes the following suggestion:

> The Megarian paradox was probably reached by a very simple piece of reasoning, natural for followers of Parmenides, 'A thing is what it is, and therefore cannot be-what-it-is-not.
>
> (Ross, 1958: 244)

What Ross is trying to say here is something along the following lines. According to Diogenes Laertius, the Megarians are followers of Parmenides and Zeno.[14] If this much is right, then it is only

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[12] I take this to mean that Chretien has the natural capacity to speak French, and *not* that it is possible for him to speak French. For further discussion of this point, see the material in the second half of part **II**.

[13] As we will see later on this is essentially one of the arguments Aristotle deploys against the Megarians in *Met.* 1046b32*ff.* See also fn. 22.

[14] For further discussion of this point, see Kneale & Kneale, 1988: 113-114.

natural to take it that they adopt the Parmenidean dictum that 'A thing is what it is, and therefore cannot be-what-it-is-not'. To spell things out a bit, the suggestion is that the Megarians, like Parmenides, hold that there are some serious philosophical problems with the analysis of change. As a result, they proceed to espouse one of the standard Eleatic conclusions: change, any kind of change, is impossible.[15] Obviously, if one accepts this thesis then it is not hard to see how one may derive the further claim of *Met.* Θ. 3; namely, capacity = actuality. That is, if one denies the possibility of any kind of change then one has to concede the following: (a) a thing is what it is, and it cannot become what it is not; (b) hence, that which is *said* to be 'capable of ϕ-ing' cannot be anything else but that which is actually ϕ-ing.

Can this much help us boost the plausibility of the Megarian thesis? One may argue that this is possible, *provided* one is prepared to go beyond what Ross actually states. What we need to keep in mind is that the Eleatic thesis has a certain essential corollary. The empirical evidence indicates that the world is subject to change. Thus, the Eleatics contend, the evidence of the senses must be rejected; it is patently unreliable.[16] Now, if we assume that the Megarians adopt this corollary of the Eleatic thesis, then their position appears to gain in plausibility. As we have seen, the objection raised against their view is that the empirical evidence shows that, for example, Chretien stops speaking French at *t'* but he resumes doing so at a subsequent time *t*''. Therefore, the argument goes, to explain this phenomenon we need to assume that Chretien retains the capacity to speak French even when he does not actually exercise it. In other words, we need to assume that his possession/retention of this capacity at *t*' is what explains his speaking French at *t*''. If we suppose that the Megarian thesis is combined with a rejection of the empirical evidence, however, then this argument seems to be innocuous. That is, let us suppose that the Megarians concur with the Eleatics that: (a) there are insuperable problems with all attempts to give a philosophical analysis of change, (b) this clearly indicates that change is not possible, and (c) we should place no trust in the evidence of the senses, which suggests that the world *is* subject to change. Given the above, it would seem to follow that we cannot appeal to the evidence of the senses in order to point out difficulties for the Megarian position. The Megarians may easily respond that the evidence of the senses bears no relation to reality whatsoever. They may argue that, contrary to what perception tells us, reality is such that: (i) no kind of change is possible; (ii) hence, that which is *said* to be capable of $\phi$-ing, cannot be anything else but that which is actually $\phi$-ing. In the final analysis, it would appear that under these considerations the argument described earlier on cannot sink the Megarians' ship.[17,18]

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[15] I take it that the reader is familiar with the fundamentals of Parmenidean/Eleatic ontology. For a discussion of Parmenides' metaphysics, and in particular his treatment of change, see Panayides, 1991: esp. part II.

[16] See fn. 15.

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[17] For a runaway development of the line of reasoning sketched out in the last two paragraphs, see Rosen, 1979.

[18] As we will see in the next couple of pages, there is no good reason to assume that the Megarian thesis takes its start from any of the Eleatic doctrines.

What we need to note at this point is that although the expanded version of Ross' proposal makes the thesis of 1046b29-32 more palatable, it cannot be the truth about the Megarians of *Met.* Θ. 3. As I will show, there are (at least) two problems with this reconstruction of the Megarian position.

In *Physics* (*Phys.*) A. 2. 184b25-185a1, the Stagirite states that '... the investigation of whether what exists is one and unchangeable', *viz.* the Eleatics' doctrine, 'does not belong to a discussion of nature'. The natural scientist, he contends, should simply assume that all natural things are subject to change.[19] He goes on to add, though, that the treatment of the Eleatic thesis falls under the purview of philosophy.[20] In fact, he devotes *Phys.* A. 2, and most of A. 3, to the presentation of an array of (philosophical/dialectical) arguments which are intended to show two things: (a) what exists is *not* one, and (b) things in the world are indeed subject to change. Clearly, if these arguments are successful, then it would seem to follow that the Eleatics are also mistaken to claim that the evidence of the senses is unreliable.[21]

As we have seen, the interpretation of *Met.* Θ. 3 (1046b29-32) described earlier on has it that:

> (1) The Megarians hold that *x* has the capacity to ϕ if and only if *x* is actually ϕ-ing.
> (2) What prompts them to accept this thesis is the fact that they adopt Parmenides' doctrine that no change is possible.
> (3) It is not useful to cite the evidence of the senses as the basis of an argument against the Megarians. The Megarians, like Parmenides, maintain that we ought not to show any faith in the empirical evidence. As was indicated above, they take it that this is an essential corollary of the thesis that no change is possible.

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[19] See *Phys.* A. 2. 185a12*ff.*
[20] See *Phys.* A. 2. 185a17-20.
[21] Aristotle states this much at *Phys.* A. 2. 185a13-14.

If the above is the correct interpretation of *Met.* 1046b29-32, then it is reasonable to expect that in *Met.* Θ. 3 Aristotle would want to discredit (1) by undermining (2) and (3) -- a task he has already performed in *Phys.* Α. 2-3. Instead of doing so, however, he begins his attack by utilizing an anti-Megarian argument along the lines described earlier on. That is, he deploys an argument which simply assumes, without any justification or reference to the discussion in *Phys.* Α. 2-3, that the evidence of the senses is indeed reliable.[22] Hence, I would like to suggest that to accept (1)-(3) is to accept that: (a) Aristotle blatantly begs the question against the Megarians, *or* (b) the discussion in *Met.* Θ. 3 assumes that the reader knows, from *Phys.* Α. 2-3, that the Megarians are mistaken to doubt the evidence of the senses. It seems to me, though, that both options are unacceptable. The first one is, to say the least, uncharitable to Aristotle. As for the second one, I think it simply presupposes too much. That is, it presupposes that by simply going over the lines 1046b29-32 the reader can automatically see that the Megarian thesis has its foundations in Eleaticism, and that these foundations have been thoroughly undermined elsewhere. Hence, I would like to submit that it is very doubtful that (1)-(3) gives us an exegetically correct account of the Megarian position.

What seems to also tell against (1)-(3) is the evidence from *Met.* Θ. 3. 1047a10-14. In this stretch of text, Aristotle states that:

> (i) The Megarians hold that that which lacks the capacity to $\phi$ cannot $\phi$ [1047a10-11].
>
> (ii) Given the Megarian thesis of *Met.* 1046b29-32 and (i), it follows that: if $x$ is not now $\phi$-ing, then it is incapable of $\phi$-ing (at any future time) [1047a1012].

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[22] See *Met.* 1046b33-1047a10. See also the discussion at the end of part **III**.

> (ii) From (i)-(ii), it follows that he who says of that which is not now ϕ-ing that it *is* ϕ-ing, or that it *will* be ϕ-ing, says what is not true [1047a12-14].

On the basis of (i)-(iii), the Stagirite goes on to claim that: 'Thus, it follows that these arguments [of the Megarians] do away with both motion and becoming' (ὥστε οὗτοι οἱ λόγοι ἐξαιροῦσι καὶ κίνησιν καὶ γένεσιν).[23] Aristotle's point here is that it is the Megarian thesis, *viz.* 'actuality = potentiality', that entails the impossibility of change and *not* the other way round. Hence, I would like to submit that although it is true that the Megarians of *Met.* Θ. 3 concur with Parmenides on the point concerning change, their thesis does *not* take its start from any doctrines of the latter. The textual evidence from 1047a10-14 indicates, *contra* (1)-(3), that the Stagirite takes it that the Eleatic claim that no change is possible is a consequence of the Megarian thesis. Hence, it is plausible to assume that the Megaric view also implies the corollary of the Eleatic doctrine, namely, the claim that the empirical evidence is unreliable.[24] Furthermore, what we need to note here is that in *Met.* Θ. 3 Aristotle states *explicitly* that one of the reasons the Megarian position is untenable is that it entails the absurdities propounded by the Eleatics. To be more specific, he reasons as follows.[25] The Megarian position entails the Eleatics' claims. It should be clear, though, that we cannot accept that things are static. For example, it is ludicrous to maintain that that which is now seated will remain seated for ever. Therefore, we ought to reject the claim that gives rise to these kinds of absurdities; namely, the claim that capacity and actuality are one and the same. In short, it seems that there is plenty of evidence in *Met.* Θ. 3 (1047a10*ff*) which suggests that (1)-(3) cannot be the correct reconstruction of the Megarian view. More precisely, the textual evidence indicates that the Megaric view does not take its start from Eleaticism, but rather that it leads to it.

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[23] *Met.* Θ. 3. 1047a14.

[24] It should be noted, though, that Aristotle does not actually state so in *Met.* Θ. 3.

[25] What follows is a summary of the argument in *Met.* 1047a15-20.

What should be evident from the discussion in the last few pages is that we are still confronted with the original question. Is there anything we can do to make the Megarian view appear more plausible? What I would like to suggest is that to answer this question we will need to explain how the thesis presented at *Met.* 1046b29-32 is connected to determinism. One line of interpretation has it that the Megarian thesis entails determinism. And putatively, the obvious way to show that the Megarian view generates some form of necessitarianism is this:

> (a) The Megarians hold that $\mathcal{M}$ = 'a state of affairs $S$ is possible, if and only if $S$ is an actual state of affairs'. In other words, they maintain that 'possibility = actuality'.
> (b) If $\mathcal{M}$ is true, then it is also true that there aren't any unactualized possibilities. That is, if $\mathcal{M}$ is true then so is $\mathcal{M}'$ = 'if the state of affairs $S$ is not actual, then it is impossible'.
> (c) What seems to follow from $\mathcal{M}$ and $\mathcal{M}'$ is that change is altogether impossible. Hence, from $\mathcal{M}$ and $\mathcal{M}'$ we may move to $\mathcal{D}$ = 'if $S$ actually obtains, then $S$ is a necessary state of affairs'.[26]

In short, the claim is that the Megarian position entails the thesis that the world is a plenum of necessary states of affairs. Whether this is the correct way to construe the connection of *Met.* 1046b29-32 to necessitarianism is something that remains to be seen.[27]

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[26] As was noted in chapter 1, a reconstruction of the Megarian view along these lines, *viz.* (a)-(c), is suggested by D.C. Williams; see Williams, 1986: 183. As far as I know, this suggestion has never been challenged.

[27] The rest of part II is essentially an argument against the suggestion just

As was noted in part I, Aristotle states that the Megarian position is this: 'something has a capacity (δύνασθαι) [to do something] only when it is acting (ἐνεργῇ), and ... when it is not acting it does not have this capacity (οὐ δύνασθαι)'. The suggestion we have just gone through, however, takes it that the quarrel between Aristotle and the Megarians is one concerning possibility and not (natural) capacity. That is to say, the assumption in (a)-(c) is that where Aristotle and the Megarians say that '*x* δύνασθαι φ', they mean to say that 'it is possible for *x* to φ'. It seems to me, though, that the textual evidence does not support such a claim.

In the *corpus* we find a number of different expressions which are intended to denote modalities of one kind or another. Two such terms are δυνατόν and ἐνδεχόμενον. According to T. Waitz, the first of these two terms indicates physical possibility whereas the second one indicates logical possibility.[28] This claim, however, has been repeatedly challenged by a number of the modern scholars. Ross, for example, urges us to note that there are several places, such as *Prior Analytics* (*APr.*) 32a18*ff* and *Posterior Analytics* (*APo.*) 74b38, where it is clear that Aristotle uses δυνατόν and ἐνδεχόμενον as synonyms. That is, he uses both of them to indicate the same kind of possibility.[29] The question that remains to be answered, of course, is how this dispute relates to our present discussion. As we will soon see, resolving this old interpretive problem is essential to

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outlined; *viz.* (a)-(c).

[28] See Waitz, 1844.

[29] See Ross, 1958: 245. It is worth noting that Ross never specifies what kind of possibility these two terms are meant to indicate. For other arguments against Waitz's suggestion, see the references in Irwin, 1988: 564.

determining the meaning of δύνασθαι and its derivatives in the context of *Met*. Θ. 3.

What we need to concede is that Ross is correct to point out that there are places, such as *APo*. 74b38, where Aristotle seems to make no distinction between δυνατόν and ἐνδεχόμενον. Yet, I think one ought to acknowledge that there are also places where the Stagirite clearly indicates that the two terms are *not* interchangeable. And one of these places is *Met*. Θ. 3.[30] After he has disposed of the Megarian view in this chapter, Aristotle proceeds to give us his own view of the δυνατόν. In particular, he tells us that a thing 'is δυνατόν of something, if there is nothing impossible (ἀδύνατον) in its having the actuality (ἐνέργεια) of that of which it is said to have the δύναμιν'.[31] And to illustrate his point, he gives us an example:

> [I mean, for example,] if a thing is capable of sitting, and it is possible for it to sit, then if it actualizes its capacity to sit nothing impossible will result from it (λέγω δὲ οἷον, εἰ δυνατὸν καθῆσθαι καὶ ἐνδέχεται καθῆσθαι, τούτῳ ἐὰν ὑπάρξῃ τὸ καθῆσθαι, οὐδὲν ἔσται ἀδύνατον).
>
> (*Met*. 1047a26-8)

There is a lot here which is of interest. For our present purposes, though, all we need to note is this. If we refuse to accept this translation of *Met*. 1047a26-8, *viz*. if we construe both δυνατόν and ἐνδέχεται as indicating possibility, then we will have to impute to Aristotle a pointless tautology. That is, we will have to read the text as saying that: '... if it is possible for a thing to sit, and it is possible for it to sit, then ...'.[32] Thus, it makes more sense to render our passage as it has just been suggested. In short, it seems more plausible that we give the two terms their usual translations; *viz.* δυνατόν = '(that which has a) capacity/power', and ἐνδέχεται = 'it is possible'.[33]

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[30] For a comprehensive list and discussion of such passages, see Bosley, 1999.

[31] *Met*. 1047a24-6. For a more detailed discussion of these lines, see Bosley, 1999a.

[32] Even Ross cannot bring himself to do this. Instead, he attempts to evade the difficulty for his view by rendering *Met*. 1047a26-8 as follows: 'I mean for instance, if a thing is capable of sitting and it is open to it sit, there will be nothing impossible in its actually sitting'; see Barnes (ed.), 1985: 1653. It

The evidence we have just considered gives us good reason to think that within the context of *Met.* Θ. 3 δυνατόν and ἐνδεχόμενον are not interchangeable. What we have yet to do, though, is fix the precise meaning of these two terms in the texts which concern us.

In the process of discussing 'rational capacities' (μετὰ λόγου δυνάμεις) in *Met.* Θ. 5[34], Aristotle tells us that:

> **[1048a13]** Necessarily, ... when any subject with a rational capacity **[14]** desires <to produce an effect> for which it has the capacity (δύναμιν), and in the way it has it, **[15]** it produces <the effect>. It has the capacity to produce <the effect> when the patient is present and is in **[16]** a certain state (ἔχει δὲ παρόντος τοῦ παθητικοῦ καὶ ὡδὶ ἔχοντος ποιεῖν)[35]; otherwise it will not be capable of producing it. We need not add **[17]** the condition 'if nothing external prevents it'; for it has the **[18]** capacity in the way in which it is a capacity of producing, and it is a capacity for producing not in all conditions, **[19]** but in certain conditions, which exclude the presence of external **[20]** hindrances,

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should be clear, however, that this translation does not do anything to advance his cause.

[33] See Scott & Liddell, 1989: 213, 259.

[34] For a useful discussion of the Aristotelian distinction between 'rational' (μετὰ λόγου) and 'non-rational' (ἄλογοι) capacities, see Gill, 1989: ch. 6, and esp. pp. 202-4. See also the discussion in part **III**.

[35] Ross and OCT delete ποιεῖν at 1048a16, making the presence of the passive object necessary for the agent to have the capacity to act on it. As T. Irwin points out, though, there are good reasons not to delete ποιεῖν at 1048a16. For example, if we accept Ross' reading of the text we will have to concede that Aristotle's view is that a capacity is relatively transient. Take the case of a doctor. Under Ross' reconstruction of 104813-21, the doctor has the capacity to heal only if a patient is present. There is textual evidence, however, e.g. *De Anima* Β. 5. 417a21*ff* and *Met.* Θ. 7. 1048b37-1049a18, which clearly shows that this is not Aristotle's view. To be more specific, the texts indicate that for Aristotle: (a) a capacity, such as the rational capacity to heal, is a permanent state of the entity that possesses it, and (b) the presence/absence of the passive object, and other external conditions, are merely factors which affect the realization/non-realization of a rational capacity, and in no way do they affect its possession by the active agent. For a more detailed discussion of this point, see Irwin, 1988: 229, and 563, note 9. See also the discussion in the next couple of paragraphs.

> since these are excluded when some of the conditions mentioned in the definition [21] are present.[36]

What Aristotle is trying to say in this passage is roughly the following. Take the case of the rational agent $\mathcal{A}$ which has the capacity (δύναμις) for an objective $\phi$. The claim is that the agent can produce the relevant effect, *viz*. $\mathcal{A}$ may actualize his capacity to $\phi$, provided certain conditions are satisfied. That is, it must be the case that the passive object is present, and it must also be the case that no external factors hinder the realization of the relevant capacity. If this is the point Aristotle is trying to make here, then we may settle the issue concerning the meaning of ἐνδέχεται at *Met*. 1047a26. To be more specific, what I would like to suggest is this. As we have already seen, δυνατόν and ἐνδέχεται in the context of *Met*. Θ. 3 (1047a26-8) are not interchangeable. Now, in *Met*. 1048a13-21 Aristotle draws a sharp distinction between: (a) possessing a capacity, and (b) actually realizing a capacity. It may be true, he urges us to note, that $\mathcal{A}$ has the capacity to $\phi$. But for $\mathcal{A}$ to realize its capacity certain enabling conditions need to be satisfied. The passive subject must be present, *and* there must be a complete absence of external factors that may prevent $\mathcal{A}$ from realizing $\phi$. Given that this is the case, then I think it is plausible to assume that *Met*. 1048a13-21 spells out the meaning of ἐνδέχεται at *Met*. 1047a26. In other words, I would like to submit that we need to read *Met*. 1047a26-8 as follows: 'if *x* has the capacity to $\phi$, and it is possible for it to (actualize) $\phi$, *viz*. there aren't any factors that hinder the realization of the aforementioned capacity, then ...'.

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[36] Irwin's translation, slightly amended; see Irwin, 1988: 228-229.

What we have yet to settle, of course, is the key question concerning the meaning of δύναμις. *Met.* 1048a13-21 gives us some clues towards resolving this puzzle. If we assume that this passage fixes the meaning of ἐνδεχόμενον, in the way suggested in the last paragraph, then certain things seem to follow. Consider the case of Joseph who has the capacity to build furniture. As we have seen, the discussion in *Met.* 1048a13-21 urges us to note that there is a distinction to be made between: (a) the possession of the relevant capacity by Joseph, and (b) Joseph's ability to realize his capacity. Furthermore, we have seen that in this passage Aristotle takes it that Joseph has the capacity to build furniture, even when there are factors which prevent him from exercising it. What all this seems to imply is that a capacity is not a transient state. It is rather a permanent state which an entity has even when certain factors prevent its realization. To continue with our example, suppose that Joseph has lost all his tools and cannot replace them for a week. This much means that it will not be possible for him to build furniture for that amount of time. But, it does not mean that he has also lost the capacity to make furniture.

To sum up, it appears that, for Aristotle, to have the capacity to ϕ is to be in a certain non-transient state. Fortunately, in claiming so we need not depend exclusively on the circumstantial evidence of *Met.* Θ. 5. Further support for our point may be found, among other places, in *De Anima* (*DA*) B.[37] Consider, for example, *DA* B. 5. 417a21-b2:

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[37] See also *Met.* Θ. 7. 1048b37*ff*, and Θ. 8. 1050b6*ff*. I think, however, that the most convincing evidence for our point is provided by *DA* B. 5; see ensuing

> **[417a21]** We must make some distinctions concerning capacity (δυνάμεως) and actuality (ἐντελεχείας). For just now **[22]** we were talking about them in an unqualified manner. For something is a knower **[23]** in one sense, as we might say that a man is a knower **[24]** because man is among the things that know and have knowledge (ἔστι μὲν γὰρ οὕτως ἐπιστῆμόν τι ὡς ἂν εἴποιμεν ἄνθρωπον ἐπιστήμονα ὅτι ὁ ἄνθρωπος τῶν ἐπιστημόνων καὶ ἐχόντων ἐπιστήμην). But in **[25]** another sense, as we at once call a knower the man who possesses grammatical knowledge. **[26]** And each of these has a capacity but not in the same way: the **[27]** one because his genus is such and his matter, the other because when he wishes **[28]** he is able to contemplate, if nothing external interferes (ἑκάτερος δὲ τούτων οὐ τὸν αὐτὸν τρόπον δυνατός ἐστιν, ἀλλ' ὁ μὲν ὅτι τὸ γένος τοιοῦτον καὶ ἡ ὕλη, ὁ δ' ὅτι βουληθεὶς δυνατὸς θεωρεῖν, ἂν μή τι κωλύσῃ τῶν ἔξωθεν). There is also the man who is already **[29]** contemplating; the man who is actually and in the proper sense knowing this particular A. **[30]** Thus, both the first two, being potential knowers (κατὰ δύναμιν ἐπιστήμονες), become actual knowers (ἐνεργείᾳ γίνονται ἐπιστήμονες), **[31]** but the one by being altered through learning and frequent **[32]** changes from an opposite state, the other by passing in another way from the states of having arithmetical **[b1/2]** or grammatical knowledge without exercising it to its exercise.[38]

This is a passage which is usually cited in efforts to explain the distinction that Aristotle makes between first and second actuality.[39] It seems, however, that it can also settle the question concerning the meaning of δύναμις. Clearly, the Stagirite's view is that a man has the capacity to be a knower because a man is among the things that know and have knowledge (417a22-24). Then, he proceeds to unpack this claim as follows: a man has the capacity to know because his genus and matter are of the appropriate sort (417a27). It appears, then, that Aristotle's claim is that what explains $x$'s having the capacity to $\phi$ is the very nature of $x$. To be more specific, he takes it that $x$ has the capacity to $\phi$ because: (a) $x$ belongs to a certain kind of things $K$, and (b) all things which are of kind $K$ are things which, by nature, can $\phi$. In other words, the

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discussion.

[38] Hamlyn's translation, slightly amended; see Hamlyn, 1993: 23.

[39] For a discussion of this issue, see Gill, 1989: ch. 6, esp. pp. 175-183. See also Hamlyn's notes on *DA* B. 5; Hamlyn, 1993: esp. pp. 101-105.

evidence in *DA* B. 5 suggests that Aristotle's view is this: if $x$ is to have the capacity to $\phi$, then $x$ has to be an entity with a certain kind of nature.

To sum up, what I would like to suggest is that within the context of *Met.* Θ. 3, where Aristotle says that '$x$ δύναται $\phi$' he means to say that '$x$ has the natural capacity to $\phi$'. That is to say, $x$ is an entity whose very nature is such that it can $\phi$ -- under certain conditions. On the other hand, we have seen that where he says that '$x$ ἐνδέχεται $\phi$', he means to say that the conditions other than $x$'s possession of the capacity to $\phi$ are such that it is possible for it to actualize $\phi$.[40]

It is clear enough that (a) within *Met.* Θ. 3 Aristotle uses δυνατόν to signify natural capacity, and ἐνδέχεται to signify the narrow sense of possibility identified earlier on, and (b) the Stagirite indicates that the kind of narrow possibility signified by ἐνδέχεται is not to be conflated with natural capacity. However, if we are to discredit the analysis of Megarian determinism sketched out earlier on, we have to do one more thing. That is, we need to show that Aristotle denies the claim that to say that $x$ has the (natural) capacity to $\phi$, is to say that it is (logically/physically) possible for $x$ to $\phi$.[41]

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[40] I hope that the discussion in the last few pages makes it clear that Waitz is mistaken about the meaning of ἐνδέχεται. That is, it should be clear that Waitz is mistaken to claim that within the context of *Met.* Θ. 3 ἐνδεχόμενον/ἐνδέχεται indicates logical possibility. In what follows we are going to see that both Ross and Waitz are also mistaken to claim that δυνατόν indicates some kind of possibility.

[41] The discussion in the next couple of paragraphs is focussed on this point. To be more specific, it is intended to show that Aristotle does not identify capacity with logical/physical possibility. Thus, the word 'possibility', as it is used in the remainder of part II, is to be understood in this more general

There is certainly evidence which can be construed as showing that Aristotle is willing to admit that capacity implies possibility. That is to say, there is textual evidence which seems to show that he subscribes to the claim that if $x$ has the natural capacity to $\phi$, then the situation where $x$ actually $\phi$'s is a possible one.[42] It is imperative to note, however, that the Stagirite does *not* accept the claim that possibility implies capacity. For example, in *Met*. Θ. 5. 1047b31-34 he tells us that:

> As all capacities are either innate, like the senses, or come by practice, like the capacity of playing the flute, or by learning, like that of the arts, those which come by practice or by rational formula we must acquire only when we have first exercised them (άπασῶν δὲ τῶν δυνάμεων οὐσῶν τῶν μὲν συγγενῶν οἷον τῶν αἰσθήσεων, τῶν δὲ ἔθει οἷον τῆς τοῦ αὐλεῖν, τῶν δὲ μαθήσει οἷον τῆς τῶν τεχνῶν, τὰς μὲν ἀνάγκη προενεργήσαντας ἔχειν, ὅσαι ἔθει καὶ λόγῳ).

Aristotle's wording here is a bit careless. His intended point is not that $x$ acquires the capacity to $\phi$ by previously exercising *it*. As he indicates elsewhere, the correct way to formulate the claim in this passage is this: $x$ acquires the capacity to $\phi$ by doing some of the kinds of actions that it will do once it has acquired the capacity to $\phi$.[43] Take, for instance, the case of Paul who has just decided to undergo training to become a pianist. According to Aristotle, Paul will acquire the capacity to play the piano only after he has actually played the piano (at least once). What this shows, of course, is that the Stagirite is committed to the claim that it is possible for $x$ to $\phi$, even though $x$ does not have the capacity to $\phi$.[44] Furthermore, what

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sense.

[42] See *De Interpretatione* 12. 21b10-19. See also the discussion of this passage in Ide, 1990: 6-10.

[43] See, for example, *Nicomachean Ethics* Β. 4. 1105b1*ff*, Ζ. 12. 1144a12*ff*.

[44] What we need to clarify here is this. Aristotle's position is that at the time of his training, Paul does not have the capacity to play the piano; this he will acquire only after he has actually played the piano. The evidence from the

we need to note here is that the overall point is not merely that possibility is a wider notion than capacity. Given what a capacity is, it should also be clear that there are very specific reasons for maintaining that, for Aristotle, capacity is not possibility. In particular, it seems that capacity requires a whole lot more than mere possibility.[45] As we have seen, for Paul to have the capacity to play the piano is for Paul to be a certain kind of entity with a certain kind of matter. In other words, to have the capacity in question, Paul needs to have a specific kind of nature. And it is this nature of his that explains why he has just played one of Scarlatti's sonatas. By contrast, a very smart chimpanzee may eventually learn how to play the scales on the piano. Nevertheless, it is doubtful that Aristotle would want to say that the chimpanzee can ever have the capacity to play the piano. He would very likely say that the reason for this is that the chimpanzee simply lacks the relevant kind of nature. On the other hand, though, he would have to agree with us that the experiment shows that it is possible for a chimpanzee to play the piano, even though it does not have the relevant capacity. In short, it seems that Aristotle's view is that: (a) to have a capacity requires having a certain kind of nature, and (b) the mere fact that a state of affairs is possible is not a sufficient condition for the entity involved to have a capacity.

What the discussion in the last couple of paragraphs claims to have shown is that Aristotle holds that: (a) if $x$ has the natural

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*De Anima* B. 5. 417a21-b2, however, suggests that the Stagirite's position is that at the time of his training Paul has a more general capacity. That is, he has the capacity to learn an art -- including the art of playing the piano.

[45] See fn. 41.

capacity to $\phi$, then the situation where $x$ actually $\phi$'s is logically/physically possible, but (b) the mere (logical/physical) possibility of a state of affairs does not amount to the possession of a natural capacity by the entity involved. In other words, it appears that, for Aristotle, '$x$ has the capacity to $\phi$' and 'it is (logically/physically) possible for $x$ to $\phi$' are not equivalent. If this much is right, then I think we are justified to reject the analysis of Megarian determinism presented earlier on. That is, the crux of the matter is that what is purported to have a connection to determinism, *viz.* the position of the Megarians, is a thesis concerning natural capacities and not one concerning possibility. Now, my suggestion is still that if we manage to determine how the Megarians' thesis is tied to necessitarianism, then we will also be able to give their view some semblance of plausibility. In the next part of the chapter, I will explain how we are to go about these two related tasks.

## III. *On Megarian Determinism, part 2*:

St. Thomas Aquinas' commentary on *Met.* Θ. 3. 1046b29-32 reads as follows:

> He [*viz.* Aristotle] ... says ... that some said that a thing is in a state of potency or capability only when it is acting; for example, a man who is not actually building is incapable of building, but he is capable of building only when he is actually building; and they speak in a similar way about other things. The reason for this position seems to be that they thought that all things come about necessarily because of some connection between causes. Thus if all things come about necessarily, it follows that those things which do not, are impossible.[46]

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[46] Aquinas, 1961: 665.

There are two things which we need to note here. First, Aquinas seems to think that the position advocated by the Megarians is the outcome of their commitment to a certain determinist thesis. To be more specific, his suggestion is this:

> (1) The Megarians hold that there is a certain kind of connection between *every* cause and effect. As a result of this, they proceed to claim, the coming about of every event is pre-determined.
> (2) It is their commitment to this determinist thesis which prompts the Megarians to make the claim of *Met.* 1046b29-32.

The next thing we need to note is that Aquinas never spells out the details of his suggestion. That is, he never spells out the details of the determinist thesis putatively advocated by the Megarians. And most importantly, he never explains how he thinks the Megarians move from this determinist thesis to the position presented at *Met.* 1046b29-32.

As we have already seen, we have no information about the early Megarians besides what we get in *Met.* Θ. 3. Thus, any attempt to reconstruct the view that leads to the claim of *Met.* 1046b29-32 has to rely in large measure on conjecture. What I would like to propose here is that we need to seriously consider the conjecture Aquinas puts forward. That is, we need to consider his suggestion that (a) the Megarians advocate a theory which has it that 'all things come about necessarily because of some connection between causes', and (b) it is this form of necessitarianism that leads them to the thesis of *Met.* 1046b29-32. Before we get on with this task, however, I think it is essential to clarify one point about Aquinas' commentary. In part **II**, we saw that the Megarian thesis is one which concerns natural capacities. To be more specific, we saw that their view is this: $x$ has the capacity (δύναμις) to $\phi$, if and only if $x$ is actually $\phi$-ing. Given that this is the case, then it seems that Aquinas' concluding remarks on *Met.* 1046b29-32 need to be carefully considered. It appears that the form of determinism ascribed to the Megarians *does* lead to the conclusion identified by Aquinas; namely, that it is impossible to have events which do not come about of necessity.[47] We need to keep in mind, though, that our ultimate goal is not to establish this last point. What we need to do for our present purposes is to show how the form of determinism purportedly advocated by the Megarians leads to the conclusion that an entity $x$ has the capacity to $\phi$, if and only if $x$ is actually $\phi$-ing.[48]

To sum up, my proposal is this. If we fill out the details of Aquinas' conjecture that the Megarians hold that every event is pre-determined, due to some universal fact concerning causation, then we may see how they reach the thesis of *Met.* 1046b29-32. And if we manage to do this much, then I think we can also make this thesis appear a little bit more plausible.

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[47] Very briefly, if it is the case that *every* event is pre-determined, due to some facts concerning causation, then the conclusion Aquinas draws our attention to seems to immediately follow. That is, it follows that any *said* event that does not fall in the category of things that come about of necessity is simply an impossibility.

[48] I do not hereby claim that Aquinas' analysis of the Megarian view commits the same mistake as the one presented in part II. I take it, quite charitably, that the first few lines of his commentary on *Met.* 1046b29-32 indicate that he appreciates that the issue in question is one concerning capacity and not possibility. It should be clear, though, that the last couple of lines of his commentary, as they stand, may prompt one to think that he assumes that Aristotle's dispute with the Megarians is one concerning possibility. Hence the clarification noted above.

In *Met*. Θ. 2, Aristotle introduces the distinction between (*active*) rational and (*active*) non-rational capacities.[49] Rather briefly, he argues that:

> (1) Some 'principles' (ἀρχαί) reside in soulless things, whereas others are present in things which possess a soul. And it is for this reason that 'some capacities will be non-rational and some will be accompanied by reason' (τῶν δυνάμεων αἱ μὲν ἔσονται ἄλογοι αἱ δὲ μετὰ λόγου).[50]
>
> (2) A rational capacity is directed towards a pair of contrary ends. That is to say, a rational capacity is a double capacity. Take, for instance, medical art. Apparently, the doctor, given his art, is in a position to produce both health and disease.
>
> (3) A non-rational capacity is directed towards a single end. For example, the active capacity of fire, its power to heat, is for a single result; namely, the production of heat.[51]

What is important to notice here is that Aristotle resumes the discussion of this distinction in *Met*. Θ. 5. In *Met*. 1048a5-13, he tells us that:

> **[1048a5]** ... with regard to non-rational capacities, [6] when the agent and the patient meet in the way appropriate to the capacity in question, [7] the one must act and the other be acted on, but with rational capacities this is not [8] necessary (... τὰς μὲν τοιαύτας δυνάμεις ἀνάγκη, ὅταν ὡς δύνανται τὸ ποιητικὸν καὶ τὸ παθητικὸν πλησιάζωσι, τὸ μὲν ποιεῖν τὸ δὲ πάσχειν, ἐκείνας δ ' οὐκ ἀνάγκη). For the non-rational capacities are all productive of one effect each, whereas the rational ones [9] produce contrary effects, so that they would produce contrary effects at the same time. This, however, is [10] impossible. Necessarily, then, that which is the deciding factor is something different (ἀνάγκη ἄρα ἕτερον τι εἶναι τὸ κύριον). I mean [11] by this, desire or choice (λέγω δὲ τοῦτο ὄρεξιν ἢ προαίρεσιν). For whichever of two things the subject desires [12] decisively, it will do, when the enabling conditions for the realization of the capacity are present, and it meets [13] the passive object (ὁποτέρου γὰρ ἂν ὀρέγηται κυρίως, τοῦτο ποιήσει, ὅταν ὡς δύναται ὑπάρχῃ καὶ πλησιάζῃ τῷ παθητικῷ).

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[49] I think it is important to emphasize the point that in *Met*. Θ. 2, *and* in *Met*. Θ. 5, Aristotle is primarily interested in making the distinction between *active* rational and *active* non-rational capacities. In these two chapters, the Stagirite has very little to say about passive capacities. See also the discussion in chapter 5.

[50] See *Met*. 1046a36-b2. For a more detailed discussion of this passage, see Gill, 1989: 202-204.

[51] Points (2) & (3) are a summary of *Met*. 1046b4*ff*. For further discussion of this material, see Gill, 1989: 202-204.

In the next few pages, I intend to argue that this passage gives us the clues we need to (a) follow up on Aquinas' suggestion, and (b) resolve the puzzle surrounding the Megarian view of *Met.* 1046b29-32.

As we can see, in our passage Aristotle elaborates on the discussion of *Met.* Θ. 2. He claims that in the case of non-rational capacities, the sheer physical contact of the agent and the patient with corresponding capacities necessitates the activation of the agent's active and the patient's passive capacities (1048a5-7). Take the case of fire, which has the non-rational active capacity to heat, and a piece of wood, which has the passive capacity to be heated.[52] The Stagirite's position is that if fire and wood come into physical contact, then it is necessary that the fire will act, *viz.* it will heat, and the wood will be acted on, *viz.* it will be heated. What is by far more interesting to note, however, is what he has to say about rational capacities at *Met.* 1048a7-13. To begin with, he tells us that in the case of rational capacities the physical contact between agent and patient is not sufficient to produce the actualization of a capacity (1048a7-8). Then, he re-iterates the point made in *Met.* Θ. 2. He reminds us that rational capacities, as opposed to non-rational ones, are double capacities. That is to say, they are directed towards a pair of contrary ends. As he notes, however, this does not mean that a rational capacity may produce contrary effects at the same time; this is simply impossible (1048a8-10). And finally, he goes on to further discuss the claims he has just made. It is true, he tells us, that an active agent who has a rational capacity may produce either of two contrary effects. The active agent, however, cannot produce both of these effects at the same time. When it comes to rational capacities we don't have just an active agent and a passive subject. The Stagirite's view is that in such cases we have: (a) the active agent, who has a double capacity, (b) the passive subject which may be affected by the agent, and (c) the 'deciding factor' (τὸ κύριον). Apparently, at each given time the active agent can produce only one of the two available alternatives. And, the deciding factor, *viz.* the choice of the agent, is the element that determines which result it is that the agent will eventually bring about (1048a10-13).

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[52] To spell things out a bit, the point here is that both the fire and the wood have non-rational capacities. Fire has the single active capacity to produce heat. On the other hand, the piece of wood has a passive capacity *in relation* to fire; that is, it may be heated.

What was recounted in the last paragraph gives us a rough outline of Aristotle's theory of rational capacities.[53] To proceed with our task, though, which is to resolve the puzzle of *Met.* 1046b29-32, we will need a clearer picture of the position presented in *Met.* 1048a7-13. To this end, I propose that we utilize one of Aristotle's favorite examples of an agent with a double (rational) capacity: the case of the doctor.[54] If Callias has the art of health then he may be said to have a double capacity. To explain why this is so, consider the situation where Callias is at the bedside of Socrates who suffers from high fever. Given his art, Callias knows that health is the balance of the elements in the human body. By examining Socrates

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[53] See fn. 49.

[54] It is one of the examples Aristotle uses time and again in his discussions of capacity and actuality. See, for example, *Met.* Ζ. 7. 1032b6*ff* and Θ.2. 1046b4-7.

Callias can determine that to restore his patient's health he needs to cool him to reduce the fever. At the same time, though, it is clear that he also recognizes that he can increase the patient's fever, thus making his condition even worse, by inducing more heat. In other words, it appears that the doctor, given his art, can recognize both the positive and the negative end. What this means is that Callias is in a position to either heal or harm Socrates. The mere fact that he is now at the bedside of Socrates, however, is not sufficient to bring about either of the two alternative ends. For one of them to materialize Callias must make a choice. In fact, Aristotle holds that if Callias has decided on one of the two possible plans of action, and provided that the patient is present *and* that nothing interferes, then the outcome comes about of necessity.[55] That is, if the two conditions just mentioned are satisfied, then it follows that (a) if Callias has decided to harm Socrates, then it is necessary that the latter will be harmed, and (b) if Callias has decided to heal Socrates, then it is necessary that the latter will be healed.[56]

The issue that remains to be addressed, of course, is how this discussion of rational capacities may help us flesh out Aquinas' suggestion, and ultimately resolve the puzzle of *Met.* 1046b29-32. What is imperative to note is that Aristotle's discussion of rational capacities makes it abundantly clear that he is an indeterminist. His position is that physical contact between Callias and Socrates is not sufficient to bring about a result. In contrast to the case of non-rational capacities, physical contact between the doctor and the patient does not guarantee that (a) the doctor will actualize his active capacity to heal, and the patient will actualize his passive capacity to be healed, or (b) the doctor will actualize his active capacity to harm, and the patient will actualize his passive capacity to be harmed. The outcome, Aristotle tells us, will not be determined until the moment Callias makes his decision.[57] That is to say, at any time before that moment it is possible for things to go either way: Callias may heal Socrates, *or* he may harm him.

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[55] As we have seen, in *Met.* 1048a13-16 he tells us that: 'Necessarily, ... when any subject with a rational capacity desires <to produce an effect> for which it has the capacity (δύναμιν), and in the way it has it, it produces <the effect>. It has the capacity to produce <the effect> when the patient is present and is in a certain state' (... τὸ δυνατὸν κατὰ λόγον ἅπαν ἀνάγκη, ὅταν ὀρέγηται οὗ ἔχει τὴν δύναμιν καὶ ὡς ἔχει, τοῦτο ποιεῖν· ἔχει δὲ παρόντος τοῦ παθητικοῦ καὶ ὡδὶ ἔχοντος ποιεῖν). See also fn. 35.

[56] For a more detailed discussion of Aristotle's theory of rational capacities, see Gill, 1989: ch. 6, esp. pp. 202*ff*. See also fn. 49.

I think that if we keep in mind that Aristotle's theory of rational capacities introduces indeterminism, then we may start putting together the picture of what is the (purported) quarrel between him and the Megarians. Let us assume, along with Aquinas, that the Megarians maintain that 'all things come about necessarily because of some connection between causes'. As was already noted, Aquinas never elaborates on this claim. Given the wording of his point, however, I think it is plausible to assume that he takes it to be the case that the Megarians of *Met.* Θ. 3 are not far apart from the causal determinists of *Met.* E. 3.[58] To spell things out a bit, the suggestion is that Aquinas takes it that the Megarians advocate a position along the following lines:

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[57] As Aristotle points out, the assumption here is that the agent is free to pursue either of two contrary ends, *provided* there are no factors which may prevent him from doing so. See also fn. 55.

[58] That is, I take it that 'all things come about necessarily *because of some connection between causes*', is reminiscent of the determinist position Aristotle considers in *Met.* 1027a32*ff*. See also the discussion in chapter 1.

> (1) Take any future event you like. Apparently, we can construct a continuous causal chain which connects this event to a present or past event.
> (2) Every cause in this chain is such that it brings about its effect by necessity.
> (3) Every past and present event is necessary, in the sense that it is irrevocable.
> (4) Given (1)-(3), it follows that *every* event in the future will happen of necessity.

We need not discuss this determinist argument again, as it has already been treated in some detail in chapter 1.[59] All we need to do here is point out just one thing: If it is indeed the case that the Megarians adhere to the position just outlined, *viz*. (1)-(4), then their approach to a case such as that of Callias and the fever-stricken Socrates will be quite different from that proposed by Aristotle. Most likely, they would treat this case as follows. It may be the case that Callias has just arrived at the bedside of Socrates. It should be noted, though, that Callias has no option as to how he will act. As is the case with every cause, his arrival at the bedside of Socrates will of necessity bring about a certain specific effect. More precisely, the suggestion is that the Megarians would contend that there are certain universal facts about causation which make it necessary that Callias has no options open to him. That is, they would contend that it is now necessary that he will eventually act in a certain specific way; e.g. he will eventually try to heal Socrates.[60]

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[59] The above, *viz*. (1)-(4), is just an outline of the argument for causal determinism presented in *Met*. E. 3. For a full treatment of it, see the discussion in chapter 1, and esp. part **IV**.

[60] To spell things out a bit, the idea here is that every event ***E*** is such that it will inevitably bring the coming about of a specific event ***E'***. See also fn. 59.

If the suggestion just made is accepted, that is to say if it is accepted that the Megarians are (causal) determinists, then we can begin to see how they get to the thesis of *Met.* 1046b29-32. Given the determinist position they advocate, it is only natural for them to find Aristotle's theory of rational capacities to be unacceptable.[61] The Stagirite's theory, as we have seen, has it that (a) a rational agent has double (active) capacities, and (b) the course of action he will eventually follow is not determined until the moment he makes his decision. What is most important to note, however, is that Aristotle makes a rather compelling case for his view. His claim is that Callias, given his art, can recognize both the positive and the negative end. That is, he can recognize that if he induces heat he will further impair Socrates' condition, whereas if he cools him he will get better. Furthermore, Aristotle claims that Callias, being a rational agent, has both 'desire' (ὄρεξιν) and 'choice' (προαίρεσιν). Thus, he continues to say (in *Met.* 1048a10*ff*), if nothing interferes *and* provided the passive subject is near, Callias may freely decide to pursue either of the two ends available to him. Now, what I intend to show in what follows is that one way the Megarian determinist may attack Aristotle's indeterminism is *via* the thesis of *Met.* 1046b29-32.

As we have already seen, Aristotle takes it that: (a) Callias has a certain (active) capacity for contrary effects, (b) this capacity may be actualized only after Callias has made his choice, and (c) at any point before the decision is made, it is possible for Callias to pursue either of the two available options.[62] What I would like to submit is that one, admittedly extreme, reaction to Aristotle's indeterminism is to deny the distinction between capacity and actuality. To be more specific, my proposal is this. The Stagirite's view is that, under the right conditions, there is a time at which it is open to Callias to pursue either of the two ends available. Furthermore, we have seen that Aristotle provides good support for this view. Given his art, he contends, Callias can recognize both the positive and the negative end. And provided that the passive subject is near *and* that nothing hinders Callias' decision-making, then it follows that there is a time at which the future is open. That is, there is a time at which it is not determined whether Callias will heal or harm Socrates. On the other hand, the determinist position the Megarians are purported to advocate has it that: every cause ***E*** is such that it will inevitably bring about a specific effect ***E'***; hence, it follows that Callias' arrival at the bedside of Socrates will, of necessity, bring about a certain result -- let us say, Callias' healing of Socrates.[63] It should be clear, then, that Aristotle's theory of rational capacities presents a serious problem for the Megarians. The Megarians need to deal with the thesis that: (i) given his nature, a rational agent such as Callias has a capacity which is directed towards contrary ends, and (ii) under the right circumstances, Callias is free to pursue either of the two ends available to him. What I would like to suggest is that it is plausible to assume that their reaction to this form of indeterminism is to challenge the thesis that a rational agent has a capacity for contrary ends. As was already indicated, one (extreme) way to do this is to claim that the rational agent has the capacity to $\phi$, if and only if he/she is actually $\phi$-ing. Putatively, if the thesis of *Met.* 1046b29-32 is accepted, then the problem of the agent being capable of two contrary ends, and consequently the problem of indeterminism, do not arise at all. That is to say, if capacity *is* actuality, then there is no point at which Callias may be said to have the dual-end capacity to heal or to harm. Under the Megarian scheme of things, Callias has only single-end capacities, and (most importantly) he has them if and only if he is actually exercising them.

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[61] I here make the further assumption that the Megarians are in active debate with Aristotle. Given the material in *Met.* E. 3, however, I take it that this is a perfectly plausible assumption to make.

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[62] See fn. 57.

[63] See fns. 59, 60.

To spell things out a bit, my proposal is this. The Megarians, like the causal determinist of *Met.* E. 3, maintain that every cause ***E*** is such that it necessitates the coming to be of a certain specific effect ***E'***. On the other hand, Aristotle holds that a rational agent, such as Callias, has double (active) capacities. That is, Callias has the capacity to heal or to harm. Furthermore, the Stagirite argues that until Callias makes his choice, it is open to him to pursue either of the two ends. As was noted above, if we assume that the Megarian determinists are in active debate with Aristotle, then we may see how they reach the thesis of 1046b29-32. Aristotle makes a fairly strong case for his position. He notes that Callias, given his art, can recognize both the positive and the negative end. He also notes that if the passive subject is present, and if there is nothing to hinder Callias' decision-making, then there is a time at which both options are open to him. Now, my suggestion is that one reaction to this thesis is to claim that capacity *is* actuality. If this is true, then two things seem to follow: (a) no rational agent may be said to have double (active) capacities, *viz*. if capacity = actuality, then the contention that a rational agent has double capacities generates an obvious contradiction, and (b) an agent may be said to have a capacity if and only if he (now) exercises it. In short, the suggestion is that the thesis of 1046b29-32 is designed to eliminate the basis of Aristotelian indeterminism, *viz*. the claim that rational agents have double (active) capacities. What we need to point out, though, is that it also eliminates the possibility of causation or any other kind of change. Apparently, this much would seem to also eliminate the theory the Megarian position is presumed to take its start from, namely, causal determinism. The bottom line, however, is that it ensures that the world is one in which every state of affairs is a necessary one. In other words, my claim is the following. The Megarians begin from causal determinism. In their effort to rebut Aristotle's theory of rational capacities, which entails indeterminism, they adopt the thesis of 1046b29-32. And, as a result of this move they are forced to retreat to a yet more stringent form of necessitarianism; a form of necessitarianism which has it that the world is a plenum of necessary states of affairs. As we will see, however, Aristotle finds this new version of determinism to be equally problematic.[64,65]

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[64] See also the discussion in part **II**.

[65] What we should also note here is this. As was shown in part **II**, one may move from Eleaticism to the thesis of *Met*. 104b29-32. We have also seen,

In *Met.* Θ. 3, Aristotle uses at least four different arguments against the thesis of *Met.* 1046b29-32. To conclude the discussion in this part of the paper, I would like to review briefly two of these arguments.

As the Stagirite points out in *Met.* 1046b32-33, 'it is not hard to see the absurdities that attend' the view advocated by the Megarians. His opponents' thesis is that an agent can have a capacity if and only if he/she is exercising it. One problem with this view is this:

> If ... it is impossible to have such arts if one has not at some time learnt and acquired them, and it is then impossible not to have them if one has not sometime lost them (either by forgetfulness or by some accident or by time ...), a man will not have the art when he has ceased to use it, and yet he may immediately build again; how then will he have got the art?
>
> (*Met.* 1046b36-1047a4)

*Very briefly*, what Aristotle is trying to say here is this. The Megarian thesis has it that a man, let us call him Xenocrates, has the capacity to build only when he is actually doing so; when he stops building, he immediately loses the relevant capacity. In other words, Aristotle tells us, the Megarian thesis requires us to accept that:

> (1) Xenocrates has the capacity to build at time $t$ because he is actually doing so at $t$.
> (2) At a later time $t'$ Xenocrates stops building. At this time $t'$ Xenocrates loses his capacity to build.
> (3) At an even later time $t''$ Xenocrates starts building again. At this time $t''$ Xenocrates regains his capacity to build.

According to the Stagirite, there is an obvious difficulty with the Megarian position. As we have already seen, for Aristotle, to have a

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however, that Aristotle clearly states that the Megarian thesis does not takes its start from Eleaticism. Rather, it is the Megaric view which seems to entail Eleaticism. Given the story recounted above, we may see why Aristotle sees the order of implication going from the Megaric view to Eleaticism and not the other way around.

capacity requires having a certain kind of nature. For example, what explains the fact that Alcibiades has the capacity to speak a language is the further fact that Alcibiades' genus and matter are of the appropriate sort. Now, according to the Megarians it is perfectly plausible to say that: at time *t* Alcibiades has the kind of nature which enables him to speak a language; at the subsequent time *t'* this same man loses the kind of nature which enables him to speak a language; and, at *t''* this very same man regains the kind of nature that allows him to speak a language. Aristotle's complaint about all this is that the Megarians tell us nothing which may explain how a man can go through such radical changes. To be more specific, his complaint is that they have failed to explain what it is that causes a man to lose, and then regain one and the same essential nature.[66]

The second main argument Aristotle utilizes against the Megarians is one that we have already considered. In *Met.* 1047a10-14, the Stagirite notes that the thesis of *Met.* 1046b29-32 leads to Eleaticism. That is to say, if one accepts that *x* has the capacity to $\phi$ if and only if it is actually $\phi$-ing, then one has to also accept that change and generation are impossible. More specifically, one has to accept that the world is a plenum of necessary states of affairs. As the Stagirite points out, however, it should be clear that it is absurd to deny the possibility of change. Hence, it is also clear that the thesis which yields this conclusion, *viz.* the thesis of *Met.* 1046b29-32, is also absurd.[67]

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[66] As was noted above, this is just a brief outline of the argument in *Met.* 1046b36-1047a4. For a more detailed discussion of it, see Irwin, 1988: 227-229.

[67] It is quite likely that Aristotle gives Eleaticism such a short treatment in the context of *Met.* Θ. 3, because he assumes that his audience is familiar with

## IV. Some concluding remarks:

There is no denying the fact that the interpretation of *Met*. Θ. 3 presented in this chapter is based on a number of conjectures. What I would like to do in this last section of the chapter is to highlight a couple of things which, I think, give my reading of *Met*. Θ. 3 some measure of support.

If we take a close look at *Met*. Θ. 2, we can see that Aristotle's main aim in the chapter is to: (a) introduce the distinction between rational and non-rational capacities, and (b) explain why a rational capacity is a capacity for two contrary ends. The next thing we need to point out is that it is clear that one of the goals of the discussion in *Met*. Θ. 5 is to explain a certain fact about rational capacities. More precisely, in this chapter the Stagirite attempts to show that in the case of rational capacities, the meeting of the active agent and the passive subject is not enough to bring about a result. As we have seen, Aristotle's position is that for a rational capacity to be actualized, it is required that the agent makes a decision. Furthermore, he clearly notes that, under the right circumstances, the rational agent has freedom of choice.

Keeping the above in mind, we may proceed to ask a couple of interesting questions. Why doesn't Aristotle go on to complete his discussion of the distinction between rational and non-rational capacities in *Met*. Θ. 2? Why does he interject the treatment of the Megarians in *Met*. Θ. 3[68], before he goes on to complete his account

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the discussion in *Phys*. A. 2-3.

[68] There is also the discussion in *Met*. Θ. 4, which appears to be even more

of the distinction made in *Met.* Θ. 2? What I would like to suggest is that one plausible explanation for the structure of the discussion in *Met.* Θ. 2-3, 5 is this. The material in *Met.* Θ. 2 is designed to introduce the distinction between rational and non-rational capacities. Before Aristotle can go on to complete the account of this distinction, *viz.* explain how rational capacities introduce indeterminism, he needs to clear one important obstacle. That is, he needs to show that the Megarian attack on the theory of rational capacities is innocuous. And, as was explained in part **III**, this is exactly the function that *Met.* Θ. 3 seems to perform.

The next thing we need to note here is that there are a number of different discussions of *Met.* Θ. 3 in the recent literature. What is surprising, however, is that none of them attempts to explain what it is that motivates the Megarian thesis of *Met.* 104629-32. The modern interpreters agree that this thesis is patently untenable. It is puzzling, though, that none of them has any proposal to make in terms of explaining how one may reach the conclusion of *Met.* 1046b29-32.[69] And in the absence of such an explanation, we have no option but to accept that the Megaric view is just a fatuous dictum which is hardly worth Aristotle's attention. What the interpretation of *Met.* Θ. 3 presented above claims to have done is to have put the Megarian thesis in context. That is, by utilizing Aquinas' cryptic suggestions, we have managed to tell a

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distant from the material in *Met.* Θ. 2. Rather briefly, the connection between these two chapters is this. In *Met.* Θ. 3 Aristotle shows that capacity is not identical to actuality. And in *Met.* Θ. 4, he pursues a related matter: he shows that capacity is not entirely distinct from actuality.

[69] See, for example, Ide, 1990, and Irwin, 1988: ch. 11.

story which presents the Megarian thesis as the outcome of an attempt, albeit a lame one, to block Aristotelian indeterminism. And by doing so, we have, I think, managed to give the Megarian thesis, and Aristotle's philosophical judgement, some measure of respectability.

What remains to be seen, of course, is how the material in *Met.* Θ. 3, and in the surrounding chapters, ties in with the rest of what Aristotle has to say about modality and determinism. As was noted earlier on, though, these are matters which I intend to pursue in chapter 5.

# CHAPTER 4

## *Aristotle and the Principle of Plenitude*

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### I. *Introduction*:

In *De Caelo* (*DC*) A. 9. 277b27-9, Aristotle announces that one of the things he intends to do in the impending discussion, *viz*. *DC* A. 9-12, is to argue for the thesis that the 'world' (οὐρανός) is both 'indestructible' (ἄφθαρτος) and 'ungenerated' (ἀγένητος).[1] Very briefly, the way the Stagirite approaches the task at hand is this. In *DC* A. 10, he presents the opposing cosmological views and he explains why they are defective. At the very end of this same chapter, however, he goes on to tell us that to establish his own thesis he will need to conduct a closer examination of one of its rivals.[2] In particular, he notes that he needs to further scrutinize the position putatively found in Plato's *Timaeus*, namely, the position that the world is generated but it is indestructible. Then, he states that against the people who adopt the *Timaean* view:

> ... an argument has been given along physical lines in the case of the heavens only, but this matter will be clear once we have made an examination generally that applies to all cases (... φυσικῶς μὲν περὶ

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[1] This rendering of the word οὐρανός within the context of *DC* A. 9-12, is justified by what Aristotle has to say about it at *DC* A. 9. 278b18-21: 'Further, we call the body surrounded by the outermost revolution *ouranos* in another sense; for we usually call the entire world, that is, the universe, *ouranos*' (Ἔτι δ' ἄλλως λέγομεν οὐρανὸν τὸ περιεχόμενον σῶμα ὑπὸ τῆς ἐσχάτης περιφορᾶς· τὸ γὰρ ὅλον καὶ τὸ πᾶν εἰώθαμεν λέγειν οὐρανόν). I here adopt S. Leggatt's translation; see Leggatt, 1995: 89, and the accompanying commentary on p. 203.

[2] See *DC* 280a27*ff*.

> οὐρανοῦ μόνον εἴρηται, καθόλου δὲ περὶ ἅπαντος σκεψαμένοις ἔσται καὶ περὶ τούτου δῆλον).[3]
>
> (*DC* A. 10, 28032-4)

To spell things out a bit, in this passage Aristotle does two things. First, he tells us that he has already given an argument 'along physical lines' against the *Timaean* view. This seems to be a reference to *DC* A. 3. 270a12*ff* where he argues that: (a) generation and corruption take place among contraries; (b) 'aether' (αἰθήρ), the element out of which the heavenly bodies are made, has no contrary; (c) therefore, the heavens is ungenerated and indestructible.[4] And second, Aristotle claims that the implausibility of the *Timaean* view can be further demonstrated *via* a second, more general, argument. In *DC* A. 11, we get a discussion of the terminology required for the purposes of this argument. The argument itself is presented in *DC* A. 12.

A casual browse through *DC* A. 12 is sufficient to show that what we get in it is not one argument, but a series of arguments which are ultimately aimed against the *Timaean* position. Some of the modern interpreters argue that the reasoning in *DC* A. 12, or at least part of it, is correct.[5] Others, however, take it to be clear that it is hopelessly flawed.[6] What I would like to clarify at the outset is that it is not my intention to undertake a full scale analysis of this difficult chapter with the aim of adjudicating the dispute among the commentators. In other words, I will not attempt to determine whether or not *DC* A. 12 eventually succeeds in showing that (a) the *Timaean* view is implausible, and (b) the world is indeed both indestructible and ungenerated. In fact, these are two issues which I will largely ignore. What I would like to do instead is to focus on the opening section of the puzzlework which is *DC* A. 12. That is, I propose to examine the passage 281a28-b25 where Aristotle offers an argument to the effect that: '... everything that always is is absolutely indestructible (*ἅπαν ... τὸ ἀεὶ ὂν ἁπλῶς ἄφθαρτον*)'.[7]

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[3] This is a slightly modified version of Leggatt's translation; see Leggatt, 1995: 95.

[4] The above is a very brief summary of the argument at *DC* 270a12*ff*. For two discussions of this argument, and of *DC* A. 3 in general, see Elders, 1966: 92-3, 156-7, and Leggatt, 1995: 181-5. See also the discussion in chapter 5.

[5] See, for example, Elders, 1966: 164*ff*; Bogen and Mcguire, 1987; van Rijen, 1989: ch. 5, and esp. pp. 87*ff*.

[6] See, for example, Hintikka, 1973: 210-213; Judson, 1983; Sorabji, 1980: ch. 8, esp. pp. 128-130; Tweedale, 1997; Williams, 1965.

As is well known, the argument of *DC* A. 12. 281a28-b25 has acquired notoriety due to the work of J. Hintikka. According to Hintikka, there is textual evidence which suggests that the Stagirite takes it that everything in the cosmos is governed by the *Principle of Plenitude*:

> ***T*** = If something is possible at a time $t_i$, then it is actual at $t_j$ for at least one time $t_j \geq t_i$.[8]

Furthermore, Hintikka argues that the *corpus* contains ample evidence to support the claim that Aristotle accepts not only ***T***, but also the following variants of it:

> ***T1*** = That which never is, is impossible (e.g. *Met.* Θ. 3. 1047a12-14).
> ***T2*** = What always is, is by necessity (e.g. *DC* A. 12. 281b2-25).
> ***T3*** = Nothing eternal is contingent (e.g. *Met.* Θ. 8. 1050b7-8).[9,10]

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[7] *DC* A. 12, 281b25. For some suggestions on how this argument fits into the wider context of *DC* A. 12, see Judson, 1983: 233-5. See also Tweedale, 1997.

[8] According to Hintikka, textual evidence in support of the claim that Aristotle adopts ***T*** may be found in *Met.* Θ. 4. 1047b3-6. In his exposition of this claim, Hintikka formulates the *Principle of Plenitude* in slightly different terms. In particular, he formulates it as (***T*** =) 'No unqualified possibility remains unactualized through an infinity of time'; see Hintikka, 1973: esp. 96, 107. See also the discussion in part **III**.

[9] See Hintikka, 1973: esp. pp. 96-107.

[10] At this point, it is worth noting that a certain version of Hintikka's position

Both of these claims have been challenged by a number of the recent interpreters.[11] And the consensus among the scholars is that these criticisms of Hintikka's position are effective.[12] What I propose to show in what follows, however, is that the prime evidence Hintikka cites for the claim that Aristotle accepts ***T*2**, *viz*. *DC* 281b2-25, deserves another look. To anticipate briefly, I intend to argue that: (a) the reasoning in *DC* A. 281a28-b25 appears to commit the Stagirite, albeit inadvertently, to a certain form of the *Principle of Plenitude* he explicitly tries to reject, and (b) if this much is right, then Aristotle's struggle against determinism seems to suffer somewhat of a setback. Before we get to discuss these points, though, we will need to cover some essential groundwork. That is, we will need to wade through *DC* 281a28-b25 in order to provide an exegetically correct account of Aristotle's intended argument in this passage.

## II. ***The argument of De Caelo* 281a28-b25**:

The passage we need to examine may be divided into two sections: (a) *DC* 281a28-b2, where Aristotle makes some preliminary remarks relating to the ensuing argument, and (b) *DC* 281b2-25, where we get the actual argument which purports to

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is adopted by S. Waterlow; see Waterlow, 1982. Waterlow's position is thoroughly scrutinized by Judson, 1983. See also Kirwan, 1986, and van Rijen, 1989: 82-88.

[11] See, for example, Gaskin, 1995: ch. 7, and esp. pp. 75-8; Sorabji, 1980: ch. 8; van Rijen, 1984; 1989: ch. 4. It is also worth having a look at Judson, 1983: esp. pp. 219-20, fn. 9. Judson's criticisms are directed against Waterlow's position, but his arguments work equally well against Hintikka.

[12] See the references in fn. 11. I will come back to this point in part **III**.

establish that 'everything that always is is absolutely indestructible'. Here is how our passage reads:

> **[281a28]** Having determined these matters, we need to discuss the next. If it is indeed the case **[29]** that some things are capable (δυνατά) both of being and of not-being, then it is necessary to determine a maximum time **[30]** for both their being and their not-being. I mean the time for which **[31]** the thing is capable of being and for which it is capable of not-being in respect **[32]** of any predicate (λέγω δ ' ὃν δυνατὸν τὸ πρᾶγμα εἶναι καὶ ὃν δυνατὸν μὴ εἶναι καθ ' ὁποιανοῦν κατηγορίαν); for example, man, pale, three cubits long, or any **[33]** other such thing. For if there is no certain amount of time, but instead it is always **[34]** more than the quantity proposed and there is no time than which it is smaller, then the same thing **[b1]** will be capable of being for an infinite time and also of not-being for another **[2]** infinite time (ἄπειρον ἔσται χρόνον δυνατὸν εἶναι, καὶ μὴ εἶναι ἄλλον ἄπειρον). But this is impossible (ἀλλὰ τοῦτ ' ἀδύνατον).
>
> **[281b2]** Let this be our starting point: **[3]** 'impossible' (ἀδύνατον) and 'false' do not have the same meaning. One use **[4]** of 'impossible' and 'possible' (δυνατόν), and 'false' and 'true' is **[5]** the hypothetical (ἐξ ὑποθέσεως). I mean, for example, that it is impossible for the triangle to have two **[6]** right angles, given certain assumptions; and (it is possible for the) the diagonal to be commensurate with the sides (given certain conditions are fulfilled). There are **[7]** also, however, things which are possible, impossible, false, and true absolutely (ἁπλῶς). **[8]** Now it is not the same for a thing to be absolutely false and to be **[9]** absolutely impossible. For to say of you that you are standing when you are not standing **[10]** is false, but not impossible. Likewise, to say of a man who is playing the lyre, **[11]** but who is not singing, that he is singing is false, but not **[12]** impossible. But, to say that someone is standing and sitting at the same time, or that the diagonal **[13]** is commensurate, is not only false but also impossible. **[14]** It is not the same, then, to assume something false and to assume something impossible. **[15]** And the impossible follows from the impossible.
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> **[15]** At all events, a person has at the same time **[16]** the capacity of sitting and the capacity of standing, since when he has the former (capacity) **[17]** he also has the other (Τοῦ μὲν οὖν καθῆσθαι καὶ ἑστάναι ἅμα ἔχει τὴν δύναμιν, ὅτι ὅτε ἔχει ἐκείνην, καὶ τὴν ἑτέραν). But he does not have these in the sense that he is capable of sitting and standing at the same time, **[18]** but rather at different times (ἀλλ ' οὐχ ὥστε ἅμα καθῆσθαι καὶ ἑστάναι, ἀλλ ' ἐν ἄλλῳ χρόνῳ). If, however, something has for an unlimited time more than one capacity **[19]** there is no [realizing one] at another time; rather [they will be realized] at the same time (εἰ δέ τι ἄπειρον χρόνον ἔχει πλειόνων δύναμιν, οὐκ ἔστιν ἐν ἄλλῳ χρόνῳ, ἀλλὰ τοῦθ ' ἅμα).
>
> **[20]** Hence, if something which exists for an unlimited time is destructible, it would have the capacity **[21]** for not-being (ὥστ ' εἴ τι ἄπειρον χρόνον ὃ φθαρτόν ἐστι, δύναμιν ἔχοι ἂν τοῦ μὴ εἶναι). If, then, it exists for an unlimited time, let this **[22]** capacity be realized (εἰ δὴ ἄπειρον χρόνον, ἔστω ὑπάρχον ὃ δύναται). It will, then, at the same time be and not-be **[23]** in actuality (ἅμα ἄρ ' ἔσται τε καὶ οὐκ ἔσται κατ '

> ἐνέργειαν). But this would be false, because something false was assumed. **[24]** But if the assumption were not impossible, the result would not also be impossible. **[25]** Thus, everything that always is is absolutely indestructible (ἅπαν ἄρα τὸ ἀεὶ ὂν ἁπλῶς ἄφθαρτον).

In the next few pages, I will make an attempt to reconstruct the argument Aristotle gives in this passage. This I intend to do in two steps. First, I will briefly examine two of the most prominent recent interpretations of *DC* 281b2-25. And second, I will present what I consider to be the correct reading of *DC* 281a28-b25.

Perhaps the best known of the modern interpretations of *DC* 281b2-25 is the one by C.J.F. Williams.[13] According to Williams, the first clue to unraveling the reasoning in this passage is to be found in lines 281b9-10, 12-4. As we can see, in this set of lines Aristotle states that:

> (i) To say of you that you are standing when you are not standing is false, but not impossible [281b9-10].
> (ii) To say that someone is standing and sitting at the same time, is not only false but also impossible [281b12-4].

Williams' contention is that lines b9-10 and b12-4 introduce the distinction that medieval logicians would later make between modal propositions understood *sensu diviso* and *sensu composito* respectively. To be more specific, his suggestion is that the material in these lines is to be construed as follows. The negation of the statement we get in b9-10 is this: 'It is impossible that you, who are not standing, should be standing'. Now, two things need to be noted here. First, this last statement is to be understood *sensu diviso*, and can be assigned the form:

> (i') $\sim(\sim p \ \& \ Mp)$.

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[13] What follows in the next few paragraphs is a summary of Williams, 1965: 98-102. Note that Williams is not exclusively concerned with *DC* 281b2-25. In fact, he gives a full scale analysis of *DC* A. 12; see Williams, 1965: 95-107, 203-215.

And second, it should be sufficiently clear that it is false, for it is only a contingent fact that you are not standing. On the other hand, the statement of 281b12-4 is to be understood *sensu composito*, and is of the logical form:

(ii') $\sim M (\sim p \ \& \ p)$.

What should also be evident is that, unlike (i), (ii) is true.

The next thing we need to note, according to Williams, is the material in lines 281b15-18 where Aristotle appears to be stating that: 'A man can both sit, *viz*. not stand, and stand ...' (281b15-16). Williams points out that, at first sight, it seems that what we get immediately after this statement is a claim to the effect that we have no more reason to accept '$\sim(M\sim p \ \& \ Mp)$' than (i') itself (281b16-18). He then proceeds to state, however, that the emphasized contraposition of ἅμα ['at the same (time)'] and ἐν ἄλλῳ χρόνῳ ['at different times'] in 281b17-8, indicates that this is not quite the point Aristotle is trying to make at 281b15-8. Williams' view is that in this passage we get a second version of the *divisus/compositus* distinction; namely, a temporal version of it. He argues that the Stagirite's intention here is to make the distinction between the following statements:

(iii) A man cannot stand <now> and not stand <now>.
(iv) A man cannot stand <now> and not stand <tomorrow>.

To spell things out a bit, Williams takes it that the material in 281b15-8 is to be construed as follows. The statement 'A man cannot stand and not stand' may be given the temporally composite reading (iii). Apparently, this statement may be formalized as

(iii') $\sim M (\sim pt_1 \ \& \ pt_1)$

which is logically true. It should be noted, though, that our statement, *viz.* 'A man cannot stand and not stand', can also be given the temporally divided reading (iv). This statement may be formalized as:

$$\text{(iv')}\ \ {\sim}M\ ({\sim}pt_1\ \&\ pt_2)$$

And (iv'), as Williams puts it, is either 'false (or undesignated)' (Williams, 1965: 98).

Having stated this much, Williams goes on to give us an interpretation of 281b18-20 and a diagnosis of what (presumably) is wrong with the argument in 281b2*ff*. Williams takes it that in 281b18-20 Aristotle refers us back to (iv') and rightly asserts that when one of the time references in the two juxtaposed conjuncts is to an infinite time, the sentence in its divided sense is true. That is to say, the Stagirite rightly notes that the statement

$$\text{(iv'')}\ \ {\sim}M\ (pt_{\text{inf}}\ \&\ {\sim}pt_1)$$

is true. More precisely, Williams' claim is that in 281b18-20 the Stagirite correctly points out that the denial of (iv''), *viz.* '$M\ (pt_{\text{inf}}\ \&\ {\sim}pt_1)$', gives rise to a self-contradiction. Then, Williams proceeds to explain why the argument of 281b2*ff* is flawed. The conclusion Aristotle wants to establish with this argument is that of 281b25: 'every object *x* which exists for an infinite time is indestructible/exists of necessity'. Furthermore, it seems that the point the Stagirite is trying to make at 281b18-20 is that a statement such as '*x* exists for an infinite time but is destructible', when read in the temporally divided sense '$M\ (pt_{\text{inf}}\ \&\ {\sim}pt_1)$', gives rise to a self-contradiction. And putatively, he assumes that this is all he needs in order to establish that if $x$ exists for an infinite time, then it is indestructible. Williams, however, claims that:

> The temporal variety of the *compositus/divisus* distinction, which Aristotle introduced at 281b16, is a red herring. The statement '$X$ never corrupts (i.e. continues existing for an infinite time) but is corruptible' can still be interpreted *sensu diviso* after the pattern of $KNpt_{\mathrm{inf}}Mpt_{\mathrm{n}}$. Aristotle has still to show that this gives rise to a self-contradiction.
>
> (Williams, 1965: 99)

In other words, Williams' objection to the argument of 281b2-25 is this. This argument attempts to show that if $x$ exists for an infinite time, then it is indestructible. As was just noted, Aristotle *does* show that '$M\ (p\,t_{\mathrm{inf}}\ \&\ {\sim}pt_1)$' gives rise to a self-contradiction. This, however, is just one reading of the statement '$x$ exists for an infinite time but is destructible'. This same statement may be read as '$p\,t_{\mathrm{inf}}\ \&\ M{\sim}pt_1$'; that is to say, it may be construed as a modally divided statement. Given that (a) this is the case, and (b) this last statement, unlike its temporally divided counterpart '$M\ (p\,t_{\mathrm{inf}}\ \&\ {\sim}pt_1)$', does not appear to give rise to an obvious self-contradiction, then one inescapable conclusion seems to follow. If Aristotle is to establish his conclusion of 281b25, then he needs to show that '$p\,t_{\mathrm{inf}}\ \&\ M{\sim}pt_1$' is false. According to Williams, however, Aristotle never addresses this issue.

It appears, then, that Williams' view is that in the argument of 281b2-25 Aristotle commits a logical error. Puatively, the Stagirite shows that the temporally divided '$M\ (p\,t_{\mathrm{inf}}\ \&\ {\sim}pt_1)$' is logically false. But to get to the desired conclusion of 281b25 he needs to show that this is also the case with the modally divided '$p\,t_{\mathrm{inf}}\ \&\ M{\sim}pt_1$'. And Williams' claim is that Aristotle does nothing to show that this last statement is logically false. In fact, he takes it that:

> (1) The Stagirite seems to simply assume that since '$M\ (p\ t_{\inf}\ \&\ {\sim}pt_1)$' gives rise to a self contradiction, then so does '$p\ t_{\inf}\ \&\ M{\sim}pt_1$'.
> (2) It is on basis of the erroneous assumption that '$p\ t_{\inf}\ \&\ M{\sim}pt_1$' is obviously false that Aristotle goes on to conclude that $p$, where $p$ = '$x$ exists for ever', entails that $\sim M{\sim}p$.

What remains to be seen, of course, is whether Williams' criticism is justified.

It seems to me that Williams' interpretation of 281b2-25 is subject to a number of objections. In what follows, however, I will discuss briefly just one of them; namely, the one I take to be the most obvious.[14] Williams' contention is that Aristotle shifts illegitimately and confusedly *from* saying that '$M\ (p\ t_{\inf}\ \&\ {\sim}pt_1)$' is logically false, *to* saying that '$p\ t_{\inf}\ \&\ M{\sim}pt_1$' is logically false. That is, his claim is that the source of the problem in the argument of 281b2*ff* is this: (a) the Stagirite acknowledges that '$x$ exists for an infinite time but is destructible' may be read as '$p\ t_{\inf}\ \&\ M{\sim}pt_1$', but (b) Aristotle fails to see that to reach the conclusion of 281b25, he needs to show that '$p\ t_{\inf}\ \&\ M{\sim}pt_1$' is false; he simply assumes, albeit incorrectly, that since '$M\ (p\ t_{\inf}\ \&\ {\sim}pt_1)$' is false, then so is '$p\ t_{\inf}\ \&\ M{\sim}pt_1$'. The difficulty for Williams' view is that if we take a close look at 281b20-4, the very core of the argument that leads to the claim made at 281b25, we can *plainly* see that Aristotle's efforts there are *explicitly* aimed at showing that a statement of the form '$p\ t_{\inf}\ \&\ M{\sim}pt_1$' is logically false.[15] And given that this much is true, then I think that the charge that the argument of 281b2-25 contains the logical error identified earlier on may be readily dismissed.[16]

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[14] This is based on van Rijen, 1989: 78. For two other objections to Williams' interpretation of 281b2-25, see Judson, 1983: 232.

[15] A detailed analysis of 281b20-5 will be provided in the latter half of this part of the paper.

L. Judson, like Williams, maintains that the overall argument of 281b2-25 is problematic. The mistake he finds in the Stagirite's reasoning, though, is of a different nature than the one we have just discussed.[17] In 281b20-5, Aristotle appears to give an argument along the following lines: (a) if *x*, which exists for an infinite time, is destructible, then *x* must have the power of not-being; (b) let us suppose that *x* realizes its capacity to not-be; (c) apparently, this gives rise to an impossibility: at a certain moment in time, *x* both exists and does not exist; (d) therefore, it follows that whatever exists for ever is ***absolutely indestructible***. Judson thinks that the argument we get here is fallacious. As he notes, in the passage in question Aristotle makes appeal to a property of possibility which is stated, among other places, in *Met*. Θ. 3. 1047a24-6: '... a thing is capable of doing something if there is nothing impossible in its having the actuality of that of which it is said to have the capacity' (ἔστι δὲ δυνατὸν τοῦτο ᾧ ἐὰν ὑπάρξῃ ἡ ἐνέργεια οὗ λέγεται ἔχειν τὴν δύναμιν, οὐθὲν ἔσται ἀδύνατον).[18] The alleged problem with the argument of 281b20-5 is that the application of this principle, let us call it the *'Modal Procedure Principle'* (***MPP***), fails to yield Aristotle's conclusion. To be more specific, Judson takes it that:

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[16] What makes things very puzzling, is the fact that Williams goes on to give an analysis of 281b20-5 in which it is assumed that Aristotle's concern in this passage is to show that a statement of the form '$p t_{inf}$ & $M{\sim}pt_1$' is logically false; see Williams, 1965: 100. To be fair to Williams, we need to acknowledge that he *does* point out that the argument of 281b20-5 contains another problem; see Williams, 1965: 100-2. [The criticism Williams presents against the argument of 281b20-5 is basically the one found in Judson, 1983: 228-231. This will be considered in what follows.] Nevertheless, this much does not in any way weaken the claim that Williams is mistaken to charge Aristotle with the logical error outlined above.

[17] What follows is a summary of Judson, 1983: 228-231. See also fn. 16.

[18] One of the usual questions concerning *Met*. Θ. 3. 1047a24-6 is this: 'What *exactly* do δυνατόν and ἀδύνατον mean in this passage?'. I think that the textual evidence from *DC* Α. 12. 281b20-5 and *Met*. Θ. 4. 1047b9-12, where ***MPP*** is

> ... all that its application truly shows here is that it is impossible for something to exist always and *also* cease to be; it does not show that the ceasing to be of something that does exist always is without qualification impossible, any more than the sitting man's standing is without qualification impossible. Aristotle here seems to think that this test can be applied to a candidate for possibility *without regard to whether the supposition of its holding requires changes in what else can be taken to be true*. I shall call this the *'insulated realization manoeuvre'*, because the realization of the possibility (or the exercise of the capacity) is supposed in complete insulation - causal and logical - from anything else which is taken to hold.
>
> (Judson, 1983: 230)

To understand Judson's objection to the argument of 281b20-5 we need to take a quick look at the material in 281b2-15. In this earlier passage, Aristotle invests some effort to make the distinction between:

(1) Relative modality[19]: To illustrate this kind of modality, the Stagirite tells us that 'it is impossible for the triangle to have two right angles, *given certain assumptions*'. As it is evidenced by *DC* 281b2-6, and a number of other passages in the *corpus*[20], Aristotle's intention here is to point out that:

  (i) Relative modality is the kind of modality that governs the consequence relation in a deduction.

  (ii) A statement *p* (or a state of affairs *S*) may be said to be impossible/possible/necessary relative to certain conditions which are sufficient or necessary for its derivation (or coming about).

(2) Absolute modality: For example, it is absolutely impossible for the diagonal of a square to be commensurate with the sides (281b12-13). [For, to assume that the diagonal is commensurate with the sides, is to accept that there is at least one number which is both odd and even.]

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applied, shows that Aristotle's claim in (*Met*. Θ. 3) 1047a24-6 is this. Something has the capacity to $\phi$, *viz*. it is *δυνατόν* for it to $\phi$, just in case nothing impossible (*ἀδύνατον*) would take place if its capacity (δύναμις) to $\phi$ should be actualized. In other words, I take it that *δυνατόν* means capable, and that *ἀδύνατον* means impossible. Or, if you prefer, I take *δυνατόν* to refer to a feature of a *thing*, and *ἀδύνατον* to refer to a feature of a state of affairs or a statement. See also the discussion in chapter 3, esp. part **II**.

[19] I use 'relative possibility/impossibility' as a label for what Aristotle calls the 'hypothetical' (ἐξ ὑποθέσεως) use of 'possible' and 'impossible'. See also fn. 21.

[20] See, for example, *APr*. Α. 1. 24b19*ff*, 10. 30b32*ff*. See also fn. 21.

> In other words, it seems that Aristotle's point here is this. A statement *p* (= the diagonal is incommensurate with the sides) is absolutely necessary, in the sense that its denial yields a statement which is without qualification impossible; it is a statement that entails a violation of the principle of non-contradiction.[21]

It is clear that in 281b20-5 Aristotle utilizes ***MPP*** in order to test whether *x*, which exists for ever, is destructible. He argues that if we suppose that *x* has the capacity to not-be, and that this capacity gets realized, then we end up with an obvious impossibility: *x* exists and does not exist at one and the same time. Thus, the Stagirite concludes, *x* is (absolutely) indestructible. According to Judson, however, it should be obvious that this argument is problematic. If the supposition was simply that *x* realizes its capacity to not-be, then no impossibility would result; the statement '*x* does not exist' does not express an impossibility. What *does* seem to entail the contradiction Aristotle points to is the actualization of *x*'s capacity to not-be *while being everlasting*. And if this is right, Judson tells us, then Aristotle fails to prove his conclusion. What the argument of 281b20-5 seems to establish is that it is impossible for *x* to exist always and *also* cease to be. To use the terminology of 281b2-6, what the Stagirite's argument proves is this: the actualization of *x*'s capacity to not-be relative to *x*'s never ceasing to be entails a contradiction; hence, *x* cannot have the capacity to not-be while being everlasting. As was repeatedly noted, though, in the conclusion of the argument Aristotle *explicitly* asserts that *x* is 'absolutely indestructible'.

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[21] The above, *viz.* (1) and (2), is only a rough guide to the notions of absolute and relative modality. For a more detailed discussion of these issues, see van Rijen, 1989: ch. 3, and esp. pp. 31-50.

Naturally, the question that arises at this point is whether this is a fair assessment of Aristotle's argument. J. van Rijen notes that Judson's interpretation requires us to make an unpalatable assumption. As was indicated above, in 281b2-15 the Stagirite seems to go to great lengths to highlight the distinction between absolute modality and relative modality. Nevertheless, if Judson is right we will have to accept that in 281b20-5 Aristotle simply forgets this distinction immediately after he has recognized it.[22] I believe van Rijen's point is well taken. At the same time, however, I think we have to concede that Judson is correct to point out that: (a) the argument of 281b20-4 appears to show the impossibility of $x$'s ceasing to be *while being everlasting*, and (b) in the conclusion of 281b25, Aristotle asserts that $x$ is absolutely indestructible. Hence, if van Rijen's objection is to carry any weight then we need to actually show that, despite appearances to the contrary, Aristotle does not commit the mistake Judson charges him with. That is, we need to actually show that in the argument of 281b20-5 Aristotle does not make the blunder of forgetting his own distinction between relative and absolute modality.

As we have seen, Judson takes it that the expression ἁπλῶς ἄφθαρτον ('absolutely indestructible') at 281b25 is meant to indicate the absolute, as opposed to the relative, impossibility for an entity $x$ to be destroyed. And his complaint is that the argument of 281b20-5 only warrants the conclusion that $x$ cannot cease to exist *while being everlasting*. Now, the question we need to address is whether

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[22] See van Rijen, 1989: 81-2.

Judson's reading of 281b25 is correct. In *Met*. Θ. 8. 1050b6-28, Aristotle gives a discussion which is intended to show that the 'everlasting things' (τὰ ἀΐδια) in the cosmos are 'prior in substance' (πρότερα τῇ οὐσίᾳ) to those things which are transient.[23] In this discussion, the Stagirite makes a familiar point: the everlasting things are 'absolutely indestructible' (ἁπλῶς ἄφθαρτα).[24] What makes the material in *Met*. Θ. 8 useful for our purposes is the fact that in this text Aristotle makes it clear that the expressions 'absolutely indestructible' and 'absolutely destructible' are meant to be used in a very specific technical sense. In particular, he tells us that:

> (1) A transient thing may be said to be 'absolutely destructible' (ἁπλῶς φθαρτόν). What this means is that it is subject to substantial change. In other words, it can cease to be.[25]
> (2) An everlasting thing, as opposed to a transient one, is 'absolutely indestructible'. That is to say, it cannot ever cease to be the kind of substance it is. Or, if you prefer, it cannot ever cease to be.[26]

Given the above, I think it is plausible to assume that what Aristotle is trying to say in *DC* 281b20-5 is this. The actualization of *x*'s capacity to not-be *relative* to *x*'s everlasting existence entails a contradiction. Hence, we may conclude that *x*, which is an entity that exists eternally, cannot ever cease to exist. Or, what comes to the same thing, we may conclude that *x* is *absolutely indestructible*. In short, I think it is plausible to assert that the expression ἁπλῶς ἄφθαρτον at 281b25 has the technical meaning specified in *Met*. Θ. 8.

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[23] For a discussion of this issue, see Panayides, 1999a.

[24] See *Met*. 1050b16*ff*.

[25] In *Met*. 1050b13-16, Aristotle says that: 'And that which may possibly not be is perishable, either absolutely, or in the precise sense in which it is said that it possibly may not be, *viz*. either in respect of place or quantity or quality; 'absolutely' means 'in substance' (τὸ δὲ ἐνδεχόμενον μὴ εἶναι φθαρτόν, ἢ ἁπλῶς ἢ τοῦτο αὐτὸ ὃ λέγεται μὴ εἶναι, ἢ κατὰ τόπον ἢ κατὰ τὸ ποσὸν ἢ ποιόν· ἁπλῶς δὲ τὸ κατ' οὐσίαν). See also fn. 26.

[26] See *Met*. 1050b16*ff*. For further discussion of (1) and (2), see Ross, 1958: 259, 265.

What this means is that in the context of *DC* 281b25 this expression is not intended to indicate that it is absolutely impossible, as opposed to relatively impossible, for an entity *x* to be destroyed. Rather, it is meant to be shorthand for the claim that things which exist eternally cannot ever cease to be.

To sum up, my suggestion is that ἁπλῶς ἄφθαρτον at 281b25 need not be taken to refer to absolute modality -- as it is proposed by Judson. It may be taken to refer to the fact that everlasting things, as opposed to transient ones, are not subject to substantial change. As was indicated above, if this much is right, then we are free to assume that Aristotle's aim in 281b20-5 is *not* to establish that it is absolutely impossible for *x* to be destroyed. That is to say, if the reading of ἁπλῶς ἄφθαρτον suggested above is correct, then we are free to maintain that the Stagirite's intention in 281b20-5 is to give an argument for the claim that: given that *x* is everlasting, then it cannot have the capacity to be destroyed. And if this much is accepted, then we may neutralize Judson's criticism of the argument in 281b20-5.

In the last few pages, I have argued that the interpretations proposed by Williams and Judson are problematic. What remains to be seen, of course, is how we are supposed to read *DC* 281a28-b25. This is the task to which I will turn in the remainder of this part of the chapter.

As was noted earlier on, in 281a28-b2 Aristotle makes some remarks which are intended to prepare the ground for the discussion in 281b2-25. In 281a28-33, he tells us that if *a* is capable *both* of being *F* and of being not-*F*, then there *must* be a maximal stretch of time for the exercise of these capacities.[27] Then, he proceeds to justify the introduction of this condition. He claims that if we put no limit to the duration of *a*' s being *F*, as well as to its being not-*F*, then an unacceptable conclusion seems to follow. That is, we will have to accept that *a* is *F* for an unlimited time, and also that it is not-*F* for another unlimited time (281a33-b2). As Aristotle states, however, this is impossible (281b2).

To spell things out a bit, it seems that what Aristotle is trying to say in 281a28-b2 is this. If we are to maintain that *a* has both the capacity to be *F and* the capacity to be not-*F*, where each of these capacities is for an unlimited time, then we have to accept that it must be possible for *a* to realize *F*, and it must also be possible for *a* to realize not-*F*.[28] That is to say, if we are to truthfully assert that *a* has both of the aforementioned opposite capacities, then it must be the case that it is possible for *a* to be *F* for an unlimited time, *and* it is possible for *a* to be not-*F* for an(other) unlimited time. When we assume these capacities actualized, though, we see that an impossibility results. What is the kind of impossibility that the Stagirite has in mind here? According to one interpreter, the best we can do is to assume that the claim of 281b2 is one for which Aristotle never provides an argument.[29] It seems to me, however, that this is not quite right. At 281a33-4, the

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[27] It should be noted that 281a28-b2 is essentially a continuation of the discussion in *DC* A. 11. 281a7-17.

[28] For further discussion of this point, see the material in chapter 3 -- especially the latter half of part **II**.

[29] See van Rijen, 1989: 92.

Stagirite tells us that a stretch of time is unlimited if it is larger than all other stretches of time, and smaller than no stretch of time. Thus, if there were two distinct unlimited stretches of time each one would have to be larger than the other. But it should be obvious that this is impossible. That is to say, it is impossible for an entity *A* to be larger than another, *B*, while *B* is larger than *A*. What I would like to submit is that this is what Aristotle has in mind when he states that there *cannot* be two distinct stretches of unlimited time. And what this means, of course, is that it cannot be the case that *a* is *F* for an unlimited time, and that it is not-*F* for another unlimited time. Hence, the Stagirite's conclusion would seem to follow. If *a* has the capacity to be *F and* the capacity to be not-*F*, then there *must* be a maximal stretch of time for the exercise of these capacities.

What we need to point out here is that the discussion in 281a28-b2 supports two claims. First, there appears to be an underlying assumption which is a *sine qua non* for the development of the thought in this passage. This is the assumption that if an entity *a* has capacities for opposites, let us say for being *F* and for being not-*F*, then it must be possible for each of them to be realized. And second, given that this assumption is in place, it would seem to follow that *a* cannot have opposite capacities each of which is for a different unlimited time -- for the reasons explained above.[30] Now, to see how all this fits into the wider context of 281a28-b25 we will need to get on with the analysis of 281b2-25.

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[30] As we are about to see, Aristotle has more to say about this point at 281b18-19. In this second passage, he considers the issue of whether *a* can exercise opposite capacities, each of which is for an unlimited time, in one and the same stretch of unlimited time.

> In 281b15-18, Aristotle tells us that:
>
> (1) A man can possess simultaneously the two (opposite) capacities of sitting and standing (281b15-7).
>
> (2) To accept (1) is *not* to accept that it is possible for a man to sit-while-standing. Rather, it is to accept that a man can possess both the capacity to sit *and* the capacity to stand, in the sense that he can sit at *one* time and can stand at *another* time (281b17-8).[31]

In other words, what Aristotle is saying in our passage is this. Take an entity *x* and two opposite capacities which are for a limited time, e.g. the capacity to be *F* for a limited time, and the capacity to be not-*F* for a limited time. If *x* is to be said to have both of these, then it must be the case that it is possible for *x* to be *F* (for a limited time), *and* it is possible for *x* to be not-*F* (for a limited time). And apparently, *x* can have both of these capacities. This is evidenced by the fact that if we assume that *x* realizes them both, *but at different times*, then no impossibility seems to result.

Having stated this much, Aristotle goes on to tell us that: 'If, however, something has for an unlimited time more than one capacity there is no [realizing one] at another time; rather [they will be realized] at the same time' (εἰ δέ τι ἄπειρον χρόνον ἔχει πλειόνων δύναμιν, οὐκ ἔστιν ἐν ἄλλῳ χρόνῳ, ἀλλὰ τοῦθ' ἅμα) (281b18-19).[32] I take it that the point Aristotle is trying to make here is something along the following lines. Let us suppose that an entity *a* has both the capacity to be *F* for an unlimited time, *and* the capacity to be not-*F* for the same stretch of unlimited time. Furthermore, keep in mind the underlying assumption that if something is to be said to have capacities for opposites, then it must be possible for both of them to be realized. Once more, the test for determining whether *a* has the aforementioned capacities is to consider whether an impossibility results from assuming that it realizes them both. If it is possible for *a* to realize each of its opposite capacities, it should do so within the same stretch of unlimited time. This is so because, as was argued at 281a28-b2, there cannot be alternative stretches of infinite time. But to say that (a) there is only one stretch of infinite time, and (b) *a* realizes both its capacity to be *F* (for an unlimited time), *and* its capacity to be not-*F* (for the same stretch of unlimited time) gives rise to an impossibility. That is, it turns out that *a* is at one and the same time both *F* and not-*F*. Hence, it follows that *a* cannot have opposite capacities which are for the same stretch of unlimited time.

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[31] On these two points, *viz.* (1) & (2), see also *Sophistical Refutations* 166a23-31.

[32] Compare this translation of 281b18-19 with the ones in: Guthrie, 1986: 113, Leggatt, 1995: 101, and Stocks [in Barnes (ed)], 1985: 467.

Time now to turn to the argument of 281b20-5. Consider the opening statement of this passage: '... if something which exists for an unlimited time is destructible, it would have the capacity for not-being' (... εἴ τι ἄπειρον χρόνον ὂν φθαρτόν ἐστι, δύναμιν ἔχοι ἂν τοῦ μὴ εἶναι). The basic line of thought Aristotle is attempting to advance here is akin to that encountered in 281b15-19. Let us suppose that *x* is an entity which exists eternally. The question we are confronted with is whether *x* is destructible. As Aristotle notes, if *x* is destructible, then it must have the capacity to not-be (at some point in time). Then, he proceeds to tell us that the test for determining whether or not *x* has such a capacity is the familiar one. That is, we are going to have to consider whether it is possible for $x$ to not-be at some point in time (281b21-22). Aristotle's contention is that if we assume $x$ to realize its capacity to not-be, *while being everlasting*, then a contradiction seems to result (281b21-3). To be more specific, his claim is that the application of ***MPP*** shows that there will be a time at which $x$ both is and is not. Hence, Aristotle concludes, whatever is everlasting is indestructible (281b25). Or, if you prefer, whatever is everlasting is a necessary existent.[33]

It seems to me that at this point we need to do two things. First, we ought to note that the language of 281b20-5 makes it absolutely clear that Aristotle's aim in this passage is to show that the actualization of $x$'s capacity to not-be (at some time) relative to $x$'s never corrupting entails an obvious contradiction. In other words, it ought to be clear that his concern in our passage is to show the falsity of a statement of the form '$p\,t_{\text{inf}}$ & $M{\sim}pt_1$'. And secondly, we need to consider the central question relating to 281b20-5: 'Is the argument in this passage a good one?'.

I think that the argument of 281b20-5 contains one serious logical error.[34] As was just noted, the Stagirite takes it that what is under consideration in 281b20-5 is a statement of the form '$p\,t_{\text{inf}}$ & $M{\sim}pt_1$'. By utilizing ***MPP*** he contends to show that this statement is false. In particular, he appears to argue that: the truth of '$p\,t_{\text{inf}}$ & $M{\sim}pt_1$' is dependent on the consistency of '$p\,t_{\text{inf}}$ & ${\sim}pt_1$'; it is clear that the latter statement is contradictory; hence, it follows that '$p\,t_{\text{inf}}$ &

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[33] Compare the argument in 281b20-5 with the discussion in *DI*. 12. 21b10-22.

[34] The discussion in this paragraph is inspired by some of the comments found in Hintikka, 1973: 211-12, and Leggatt, 1995: 216.

$M{\sim}pt_1$' is false. What we need to note here, though, is that the argument goes wrong in that the consistency of '$p\,t_{\inf}$ & ${\sim}pt_1$' is not a necessary condition of the truth of '$p\,t_{\inf}$ & $M{\sim}pt_1$' but of '$Np\,t_{\inf}$ & $M{\sim}pt_1$'. To spell things out a bit, it seems to me that the mistake in the Stagirite's argument is this. Aristotle begins with the assumption that $x$ is an everlasting thing. Then, he proceeds to pose the question of whether $x$ can possess the capacity to not-be (at some point in time), while being everlasting. His claim is that the application of ***MPP*** shows that if we assume that $x$ realizes the capacity to not-be then a contradiction results; namely, there is a time at which $x$ both is and is not. Thus, he concludes that $x$, which exists everlastingly, cannot have the capacity to be destroyed. What Aristotle fails to see is that although $x$ is everlasting, *viz.* it is in the process of exercising its capacity to be for an infinite time, there is still the possibility that the exercise of this capacity may be interrupted. And if this much is true, then it is also true to assert that $x$, although everlasting, still has the capacity to be destroyed. In other words, although $x$ is everlasting it is still possible for it to be destroyed. Now, if I am right about this much, then it would seem that the inconsistency of '$x$ is everlasting and $x$ does not exist at some time $t_1$' is *not* a sufficient condition of the falsehood of '$x$ exists eternally and it is possible for $x$ to not-be at some time $t_1$'. The inconsistency of this first statement, is a sufficient condition of the falsehood of the statement 'it is necessary that $x$ is everlasting and it is possible for $x$ to not-be at some time $t_1$'. In short, it would seem that the error in the argument in 281b20-5 is that Aristotle confuses '$p\,t_{inf}$ & $M{\sim}pt_1$' with '$Npt_{inf}$ & $M{\sim}pt_1$'. And given the nature of the mistake, it would seem that the argument fails to establish its conclusion: whatever exists eternally is indestructible.

In the final analysis, my view is that the argument in 281b20-5 is flawed. What remains to be seen, though, is how this argument affects the discussion concerning Aristotle's commitment to the *Principle of Plenitude*. This is the issue I will address in the next part of the paper.

## III. *On the Principle of Plenitude*:

In part **I**, we saw that Hintikka contends that there is textual evidence which suggests that Aristotle is committed to the universal applicability of the *Principle of Plenitude*, *viz*. the thesis ***T*** along with its variants. What makes this claim significant in discussions of Aristotle is the fact that if it is accepted, then we have no choice but to accept that the Stagirite is also committed to determinism. *Very briefly*, the suggestion here is that determinism may be shown to follow from the *Principle of Plenitude* as follows:

(1) Assume that $M$ ($p$ at $t_1$).
(2) Show that ~ $M$ (~$p$ at $t_1$).
(3) Assume that $M$ (~$p$ at $t_1$).
(4) From (1), $p$ at $t_1$.
(5) From (3), ~$p$ at $t_1$.
(6) Therefore, ~ $M$ (~$p$ at $t1$).
(7) Therefore, $N$ ($p$ at $t_1$).
(8) Therefore, $M$ ($p$ at $t_1$) → $N$ ($p$ at $t_1$).[35]

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[35] For a more detailed discussion of (1)-(8), see Hintikka, 1977: 32*ff*.

Now, what should be immediately obvious from the above is that if Hintikka is right, then it would seem that Aristotle's struggle against determinism suffers a major, if not a fatal, blow.[36,37]

As was also noted in part **I**, Hintikka's position has been heavily criticized by a number of contemporary interpreters. In fact, it is now the consensus among the Aristotelian scholars that Hintikka's position, as it stands, is untenable.[38] For one thing, it has been argued that the textual evidence shows conclusively that Aristotle refuses to apply ***T*** to things of finite duration. For example, in *DI*. 9. 19a9-18 he *explicitly* states that there is a distinction to be made between things which are ever-active and things like a cloak. Apparently, a cloak is such that it is capable of being cut up, even if it never will be. In other words, it appears that the Stagirite maintains that the realm of non-eternal things is occupied by entities which have capacities that may never be realized.[39] What this means is that he is not prepared to accept the applicability of the *Principle of Plenitude*, *viz*. ***T***, to the realm of transient things.[40] And given that this is so, then it would seem

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[36] We have already seen, *viz*. chapters 1-3, that Aristotle is in active debate with the advocates of various kinds of necessitarianism.

[37] Note that Hintikka acknowledges that Aristotle's pronouncements throughout the *corpus* make it clear enough that he wants to defend indeterminism. At the same time, however, he notes that it is equally clear that the Stagirite adopts a number of claims about modality which actually force him to accept the *Principle of Plenitude* and consequently determinism. For further details on this point, see Hintikka, 1977.

[38] See fns 11 & 12.

[39] See also the discussion in chapter 2, esp. the first half of part **VI**.

[40] As Sorabji notes, there is a harmless exception to this claim. That is, it appears that Aristotle is prepared to accept that the idea that what is possible is at some time actual, is applicable to transient things in the special case of failure to exist. For further discussion of this point, see Sorabji, 1980: 132.

that he takes it to be the case that this is a realm that is not governed by determinism.

What needs to be noted at this point is that scholars are also in agreement that Hintikka's claims are not entirely misplaced. They agree that all the passages which Hintikka cites for versions of the *Principle of Plenitude*, *viz*. **_T_-_T_3**, fail to show that any of these theses pertains to transient things.[41] At the same time, however, they note that most of these passages confirm that Aristotle is prepared to accept that the contested principle, and especially theses **_T_** and **_T_2**, is applicable to cases pertaining to things which are everlasting; e.g. entities like the sun, and the rest of the heavenly bodies. That is to say, the consensus is that the textual evidence confirms that Aristotle is prepared to accept that the idea that what is always true is necessarily true[42], and the idea that what is possible is at some time actual, are applicable to things everlasting. Two of the many pieces of text which seem to support this claim are *GC* B. 11. 338a1-3 and *Phys.* Γ. 4. 203b30. In the first of these texts, Aristotle *explicitly* affirms **_T_2**: what is always the case, such as the sun's eternal motion in a circle, is of necessity. And in the second, he states that '... in the case of eternal things what may be is', which appears to be a resounding endorsement of the claim that **_T_** is applicable to things which are everlasting.[43]

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[41] I will not discuss any of these passages here. For more details on this claim, see the references in fn. 11.

[42] I take it, along with the rest of the interpreters, that 'what is always true is necessarily true' and 'what is everlasting is a necessary existent' are just instances of the more general **_T_2** (= what always is, is of necessity).

[43] Note that Aristotle does not provide us with any examples which illustrate how he thinks **_T_** is meant to be applied to everlasting things.

What I would like to clarify at this point is that it is not my intention to challenge the interpretive orthodoxy on the issues sketched out above. That is, I do not intend to challenge the claim that the textual evidence suggests that (a) Aristotle accepts the *Principle of Plenitude* only for a very restricted range of cases, *viz.* the cases which involve things everlasting, and (b) the Stagirite attempts to preserve indeterminism by refusing to apply the *Principle of Plenitude* to things of finite duration. As was noted in part **I**, however, I believe that the material in *DC* 281b20-5, *viz.* Aristotle's argument for ***T*2**, has some important ramifications for the overall discussion of the *Principle of Plenitude*. In the remainder of this chapter, I will explain what I think these ramifications are.

What I believe is important to note here is that *DC* 281b20-5 seems to give us the material needed to construct an argument parallel to the one examined in part **II**.[44] To be more specific, I think it provides us with the material needed to put together an argument for ***T*1** (= that which never is is impossible). The argument I have in mind goes like this. Consider *x* which has the capacity to be not-*F* eternally, in the sense that it now realizes this capacity. Can *x* also possess the capacity to be *F* (at some point in time)? To answer the question at hand we may appeal to the strategy Aristotle uses throughout *DC* 281a28-b25. That is, we may test whether *x* can possess the capacity to be *F*, *while being*

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[44] The discussion in this and the next paragraph is loosely based on some remarks made by R. Sorabji in his *Necessity Cause and Blame*; see Sorabji, 1980: 129-130.

*everlastingly not-F*, by applying ***MPP***. Putatively, if we assume that *x* realizes the capacity to be *F* we will end up with a contradiction. There will be a time at which *x* is both not-*F* and *F*. Hence, we may conclude that whatever is everlastingly not-*F* cannot have the capacity to be *F* (at some point in time).

How does the point just made affect the overall discussion concerning the *Principle of Plenitude*? As we have seen, the textual evidence indicates that Aristotle is perfectly happy to accept a restricted version of the *Principle of Plenitude*. That is, he is prepared to accept that this principle is applicable to things which are everlasting. The issue that we need to address here, though, is whether Aristotle can maintain that ***T*1**, like ***T***, may be said to be exclusively applicable to things eternal.

Richard Sorabji, reports that it is an embarrassment to Aristotle's view, namely the view that the *Principle of Plenitude* is only applicable to transient things, that he accepts that negative properties may attach everlastingly to transient things.[45] To be more specific, it appears that there is textual evidence which shows that Aristotle is prepared to accept the following. Take the case of this cloak here. This cloak has the capacity to be cut up, although it may never be cut up. Now, suppose that the cloak gets burnt up before somebody gets the chance to cut it up. As Sorabji notes, Aristotle's view is that we may plausibly declare that the cloak may be said to have the negative property of not being cut up during its lifetime, and that it retains this property even after it gets burnt.[46]

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[45] See Sorabji, 1980: 130.

[46] Sorabji notes that this claim, *viz*. the claim that Aristotle allows for

Why is all this significant? Evidently, it is significant because it seems to show that the argument we have constructed out of the material in *DC* 281b20-5 is not part of an empty philosophical exercise. In fact, it seems that what we have so far is evidence to support two crucial claims. First, the material in *DC* 281b20-5 is subject to an extension which shows that Aristotle is committed to the thesis ***T*1**. And second, this time around we cannot restrict the applicability of this thesis to things everlasting. As we have just seen, Aristotle is prepared to accept that (a) there are transient things which have negative properties in their lifetime, and (b) at least some of these transient things retain their negative properties even after they go out of existence. If this much is true, we can see that, for example, a cloak can have for ever the property of not being cut up. Given that it has this property, then it would seem plausible to assert the following. In the whole of time the cloak in question will not be cut up. If this is the case, then there is no time left at which the capacity to be cut up can be actualized. Hence, we may conclude that if it is everlastingly true that the cloak has the property to not be cut up, then it is impossible for it to be cut up. Hence, the thought goes, it is not just that *DC* 281b20-5 seems to give rise to an argument which has as its conclusion ***T*1**. Unfortunately for Aristotle, there is also evidence which shows him to be committed to the claim that this thesis is applicable to things transient. And if this is the case, then it would seem to follow that

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transient things to possess negative properties after they have ceased to exist, is supported by the evidence in *Categories* (*Cat.*) 10. 13b26-35 and *DI*. 3. 16b11-15.

Aristotle is, after all, committed to the idea that the *Principle of Plenitude* is applicable to transient things.

Now, what makes things particularly difficult for Aristotle's task to refute determinism is this. As we have seen, the Stagirite attempts to block determinism by refusing to accept the applicability of ***T*** to transient things. We have also seen, however, that we have all the textual evidence we need to show that Aristotle may be forced to accept that ***T*1** is applicable to things transient. Add to this the fact that ***T*1** is the contrapositive of ***T***, and it turns out that what we have at hand is an obvious tension in the Stagirite's efforts to refute determinism.

Recently, R. Gaskin has made an attempt to rescue Aristotle from the problem identified above.[47] According to Gaskin, the point Sorabji draws our attention to poses no real difficulties for the Stagirite. In particular, Gaskin urges us to note that it is only at the moment that the cloak passes out of existence, without having being cut up, that it becomes everlastingly true, and thus necessary, that it neither was nor is nor will be cut up. What Gaskin is trying to note here, is that ***T*1** may be said to be applicable to a transient thing *x* only after the relevant possibilities have been closed off for it. For example, we can say that the cloak has everlastingly the property to not be cut up, and thus that it is impossible for it to be cut up, only after the cloak has passed out of existence. During its lifetime, though, it still had the capacity to be cut up, and thus it was not impossible for it to be cut up. Hence, Gaskin concludes, it appears that Aristotle can still reject the applicability of the *Principle of Plenitude* to things which have *genuine* future possibilities. Naturally, the question we need to address is whether this is a successful defence of Aristotle.

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[47] What follows is a summary of Gaskin, 1995: 60-1.

It seems to me that Gaskin's defence has to be deemed unsatisfactory. What we need to do to show that this is the case is to go back to the argument of *DC* 281b20-5. The key is in the way the argument is set up in this passage. It is certainly true to say that this cloak here has the capacity to be cut up, as well as the capacity to not be cut up. It is also true, though, that Aristotle acknowledges that a transient thing may have negative properties which attach to it everlastingly. What I would like to submit is that this is all we need to get the extension of the argument in *DC* A. 12 started. That is, let us suppose that it is true that this cloak has the capacity to not be cut up for ever, in the sense that it is now exercising this capacity. Can it simultaneously possess the capacity to be cut up? The answer is to be provided by applying ***MPP***. Once more, the application of this principle would seem to show that the cloak cannot have the capacity to be cut up. Hence, it would seem to follow that the cloak has everlastingly the capacity to not be cut up, and it cannot have the capacity to be cut up.

The question that remains to be answered, of course, is whether this spells the beginning of the end for Aristotle's struggle against determinism. I think that all we can do at this point is resort to conjecture. It would seem to be the case that the Stagirite is not aware of the possible extension of the argument of *DC*

281b20-5 which yields ***T*1**. And, it is certainly clear he is not aware of the fact that his views concerning negative properties may be used to show that this version of the *Principle of Plenitude* is applicable to things transient. If he were aware of all this, then he would have seen the strain this line of thought puts on his effort to preserve indeterminism in the realm of transient things. And I suspect that if he were to become aware of this problem, then his response would have been something along these lines. The argument purporting to show that ***T*1** applies to things transient begins with the assumption that this cloak here is such that it has the property of never being cut up. Then, it proceeds to apply ***MPP*** to show that the cloak cannot possibly be cut up. It should be obvious, however, that the cloak's exercising of the capacity to never be cut up may be interrupted. So, all that the application of ***MPP*** can *really* show is that the following statement is false: 'this cloak here is such that it is necessary for it to never be cut up, and it is possible for it to be cut up'. And hopefully, if Aristotle could see this much, then he would also see that a similar problem plagues the argument of *DC* 281b20-5 which purports to show that 'what always is, is of necessity'.

What we need to keep in mind here is that the discussion in the last paragraph ventures in the realm of conjecture. The true facts are these. In *DC* 281b20-5, Aristotle gives us a bad argument for the thesis that (***T*2** =) 'whatever always is, is of necessity'. This bad argument may be appropriately extended to yield the thesis (***T*1** =) 'what never is, is impossible', which seems to cause a problem for Aristotle's drive to refute fatalism. And the bottom line is that *DC* 281b20-5, as it stands, contains a blunder which ultimately causes trouble for his drive to refute determinism.

# CHAPTER 5

## *The Emerging Picture*

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### I. *Introduction*:

In the preceding chapters, the discussion was focussed on unravelling the persistent interpretive difficulties surrounding four texts; *viz*. *Met*. E. 3, *DI*. 9, *Met*. Θ. 3, and *DC* A. 12. As we have seen, each one of these texts is connected, in one way or another, to Aristotle's treatment of the related issues of modality and determinism. To be more specific, the discussion in chapters 1-4 has shown that:

(1) In *Met*. E. 3 and *DI*. 9, Aristotle deals with issues which arise from two arguments for necessitarianism. In particular, he argues to the effect that:

  (a) Given that causal determinism is a patently untenable thesis, it follows that there are some causes which are accidental events (*Met*. E. 3).

  (b) The logical fatalist of *DI*. 9 is obviously mistaken to claim that the future of all entities is now fixed. Hence, it follows that the fatalist is also mistaken to claim that ***RCP*** applies to future singulars unqualifiedly.

(2) In *Met*. Θ. 3, Aristotle rebuts a Megarian objection to his theory of *rational* double capacities -- a theory which entails indeterminism.

(3) The material in *DC*. A. 12 can be used to show that the Stagirite *inadvertently* undermines his own efforts to silence his necessitarian opponents.

In short, it seems that the overall picture of Aristotle we get here is of a thinker who is firmly committed to indeterminism. What remains to be done, though, is to determine whether or not there is an underlying theme which connects the four texts at hand.

As was indicated in the introduction to this project, there are not any works in the recent literature which address the issue of whether or not there is a thread of reasoning that ties our texts together.[1] The general tendency is to treat *Met*. E. 3, Θ. 3, *DI*. 9, and *DC* A. 12 as if they were four disparate discussions of issues pertaining to the problem of necessitarianism.[2,3] I have to concede that my views on *DC* A. 12 are not far apart from those of the interpretive orthodoxy. It should be clear, however, that my reconstructions of *Met*. E. 3, Θ. 3, and *DI*. 9 are significantly divergent from those found in the existing literature. And, in chapters 1-3 I have not tried to conceal the fact that my interpretations suggest that these three texts are intimately connected. What I would like to do in this last chapter is to: (a) spell out the details of the common theme that seems to underlie the Stagirite's anti-determinist drive in *Met*. E. 3, Θ. 3, and *DI*. 9, and (b) show how *DC* A. 12 may be dealt with in light of the material in the other three texts.

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[1] See pp. v-vi.

[2] The point made here may be readily confirmed by consulting some of the classics in the field. Hintikka's *Time and Necessity* does two things: (a) it provides an interesting but flawed interpretation of *DI*. 9 [1973: ch. 8], and (b) it martials textual evidence, such as *DC* A. 12. 281a28*ff*, whose aim is to show that Aristotle is committed to the *Principle of Plenitude* [1973: ch. 5]. This work, however, does not even address the issues arising out of *Met*. E. 3, and Θ. 3. The other main classic in the field is R. Sorabji's *Necessity Cause and Blame*. Sorabji, unlike Hintikka, provides us with a useful reading of *Met*. E. 3 [1980: ch. 1]. His discussions of the other three texts, though, are not aimed towards finding out how they all hang together. Rather, they are mainly designed to: (a) rebut Hintikka's claim that the Stagirite espouses the *Principle of Plenitude* [1980: e.g. chs 6, 8, 9], and/or (b) pacify modern worries about Aristotle's philosophical acumen when it comes to the treatment of the issues of modality and determinism [1980: e.g. ch. 5]. This same kind of trend is found in R. Gaskin's recent book-length study of Aristotle's views on the metaphysics of the future; see, Gaskin, 1995.

[3] One study that tries to address the problem I have in mind is M.J. White's 'Fatalism and Causal Determinism: An Aristotelian Essay'. Unfortunately, White's interest is limited to the material in *Met*. E. 3 and *DI*. 9. Furthermore, his results are based more on conjecture than on textual evidence. See also chapter 2, fn. 68.

## II. *Connecting the dots*:

In *Met.* E. 3, Aristotle begins the discussion with the following:

> **[1027a29]** That there are principles and causes which can generate and destroy **[30]** without going through a process of generation and destruction is obvious (φανερόν). For if this is not **[31]** so, *viz.* if it is the case that whatever is generated and destroyed **[32]** necessarily has some non-accidental cause, then everything will be of necessity.

As we have already seen, there are two things we need to note about this piece of text. First, the Stagirite acknowledges that if *every* cause is a non-accidental event then the causal determinist can have his conclusion (1027a30-32). To be more specific, he concedes that: if it is indeed the case that every cause in a continuous causal chain ***C*** (= ***E*1**, ***E*2**, ..., ***E*n**) is such that it cannot fail to produce its effect, then the determinist is justified to assert that *every* future event is now (causally) determined.[4] And second, it appears that Aristotle's view is that the existence of causes which are accidental events is easily proven. Hence, his comment that the existence of such causes is 'obvious' (φανερόν). As was explained in part **IV** of chapter 1, Aristotle's overall aim in *Met.* E. 3 is *not* to give us a proof of the untenability of his opponent's view. That the determinist is mistaken to claim that every future event is now (causally) determined is something he takes to be a given. Rather, the Stagirite's goal in *Met.* E. 3 is to argue the following: it goes without saying that the causal determinist's conclusion is untenable; given that this much is right, it clearly follows that there must be causes which are accidental events. The next thing we need to keep in mind here is that in *DI.* 9 Aristotle states that it is also ludicrous to accept the logical fatalist's conclusion that every future event is now determined -- on account of certain facts concerning language and truth. In *DI*. 19a7-22, he tells us that it is simply evident that there are many things in nature whose future is not fixed. That is to say, it seems than in *DI*. 9, as in *Met*. E. 3, Aristotle takes it that everybody can just see that the necessitarians are mistaken to assert that the future of every entity is now determined. In fact, as was shown in chapter 2 the last section of *DI*. 9, *viz*. 19a23-b4, is not some kind of argument *contra* fatalism. In this passage, Aristotle begins with the assumption that the fatalist conclusion is evidently false, and he proceeds to explain what is the correct view to hold when it comes to the apportionment of truth values among future contradictory statements.[5]

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[4] See the analysis of the argument at *Met.* E. 3. 1027a32*ff* in chapter 1, part **IV**.

What I think it is time to do now, is to explain why in both *Met*. E. 3 and *DI*. 9 Aristotle begins with the assumption that the necessitarian's position, that the future of every entity is now fixed, is *evidently* untenable. As was suggested throughout this project, the answer to this question is to be found in the Stagirite's natural philosophy.

A good place to start our discussion from is *Met*. Θ. 8. 1050b22-28:

> **[1050b22]** ... the sun and **[23]** the stars and the whole heaven are ever-active, and there is no fear that they may sometime stand still, as **[24]** the natural philosophers fear that they may (ἀεὶ ἐνεργεῖ ἥλιος καὶ ἄστρα καὶ ὅλος ὁ οὐρανός, καὶ οὐ φοβερὸν μὴ ποτε στῇ, ὃ φοβοῦνται οἱ περὶ φύσεως). Nor do they tire in this activity (οὐδὲ κάμνει τοῦτο δρῶντα); for movement does not **[25/26]** imply for them, as it does for the perishable things, the capacity for opposites, **[26]** so that the continuity of the movement should be laborious, **[27]** for it is that kind of substance which is matter and capacity, not actuality, **[28]** that causes this (οὐ γὰρ περὶ τὴν δύναμιν

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[5] See the discussion in chapter 2, latter half of part **VI**.

> τῆς ἀντιφάσεως αὐτοῖς, οἷον τοῖς φθαρτοῖς, ἡ κίνησις, ὥστε ἐπίπονον εἶναι τὴν συνέχειαν τῆς κινήσεως· ἡ γὰρ οὐσία ὕλη καὶ δύναμις οὖσα, οὐκ ἐνέργεια, αἰτία τούτου).[6]

In this stretch of text the Stagirite claims, among other things, that the entities in the universe are divided into two categories. First of all, there are the entities which make up the 'heaven' (οὐρανός); *viz.* the entities beyond the sublunary realm.[7] The second category, Aristotle tells us, is composed of those entities which are 'perishable' (φθαρτά). What I would like to submit at this point is that if we are to make any progress with our discussion we have to (a) spell out the precise content of this distinction, and (b) determine the role it plays in the Stagirite's thought.

As far as the first category is concerned, Aristotle is quite clear. He *explicitly* states that its members are those entities which form the heaven; e.g. the sun and the stars. What we have to note, though, is what the Stagirite has to say about the nature of these entities. He tells us, in no uncertain terms, that the heavenly bodies have a very specific nature. His claim is that a heavenly body is the kind of substance which is matter and actuality -- as opposed to a perishable entity which is the 'kind of substance which is matter and capacity' (1050b27-28).[8] Apparently, the point Aristotle is trying to make in our passage is this. A heavenly body *x* is the kind of substance whose matter endows it with a certain capacity which is always in actuality (1050b24-28). That is, it seems that his view is that: (a) a heavenly body *x* is the kind of substance whose matter endows it with a certain capacity -- let say, the capacity to $\phi$, and (b) the capacity $x$ has, *viz*. the capacity to $\phi$, is always in actuality. Finally, and perhaps most importantly, the Stagirite claims that it is not possible for $x$ to ever stop $\phi$-ing (1050b23*ff*).

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[6] Ross' translation, slightly amended; see Barnes (ed.), 1985: 1659.

[7] This is one of the meanings of the word οὐρανός; see *DC* A. 9, esp. 278b8*ff*. See also chapter 4, fn. 1.

[8] I will come back to the case of the perishables later on.

To see what the foundations of the Aristotelian thesis outlined above are, we will need to take a brief look at some of the material in the early chapters of *DC* A.[9] In *DC* A. 2, Aristotle gives us a long argument whose ultimate purpose is to establish two claims. First, each one of the elements observed in the sublunary world - fire, air, water, earth - has a natural motion; namely, 'rectilinear' (εὐθεία) motion which is directed either up or down. And second, there is a fifth element, which is removed from the sublunary realm, whose natural motion is 'circular' (κύκλῳ). In the next chapter, *DC* A. 3, Aristotle proceeds to show that a natural body which is composed of this fifth element is both ungenerable and indestructible. *Very briefly*, he argues as follows:

> (1) If $x$ is to be generable and destructible, then it must have an opposite. That is to say, if $x$ is to be capable of being generated, then it must have an opposite out of which it comes into being. Likewise, if $x$ is to be capable of being destroyed, then it must have an opposite into which it passes.
> (2) It is the very nature of an entity made up of the fifth element, *viz*. a heavenly body, to be such that it moves in a circle. That is to say, to be a natural body made up of the fifth element is to be an entity which moves in a circle.
> (3) There is no opposite to circular motion.
> ------------------------------
> ∴. Therefore, the natural bodies composed of the fifth element are both ungenerable and indestructible.

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[9] What follows is merely a brief summary of some of the material in *DC* A. 2-3. For two detailed and useful discussions of these texts, see Elders, 1965, and Leggatt, 1995.

What remains to be seen, of course, is how the above relates to the discussion in *Met.* Θ. 8. 1050b22-28.

Apparently, what we get in *DC* Α. 2-3 is an extended argument whose aim is to establish one point: The natural bodies composed of the fifth element, which are none other but the heavenly bodies, are both ungenerable and indestructible. If such a natural body is to be generable or destructible, the Stagirite tells us, then it must have a certain specific capacity. It must be capable of ceasing to be the kind of entity it is. More precisely, it must be capable of changing into an entity with a contrary essence.[10] According to Aristotle, however, there is no opposite to motion in a circle. Hence, he concludes, the bodies made up of the fifth element, which he calls 'aether' (αἰθήρ)[11], are such that: (a) it is their very nature to be things that move in a circle, and (b) it is not possible for them to be destroyed (or generated).[12]

Keeping in mind the above, it is only natural to assume that the thesis of *Met.* Θ. 8. 1050b22-28 is to be parsed out as follows. The heavenly bodies are made up of aether. Given their elemental make up, these entities are such that: (a) they have a certain capacity; namely, the capacity to move in a circle, and (b) this capacity they have is permanently actualized. What is most important to note for our purposes, however, is that Aristotle adds that it is impossible for a heavenly body to ever cease exercising its capacity -- which is tantamount to saying that it is impossible for it to be destroyed. As he puts it elsewhere, it is 'unqualifiedly/unconditionally' (ἁπλῶς) necessary for a heavenly body to move in a circle.[13]

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[10] For a clear statement of this point, see *Met.* Λ. 2. 1069b2-14.

[11] For the interesting etymology of this word, see *DC* Α. 3. 270b22-24.

[12] For more details on Aristotle's line of reasoning, see *DC* Α. 3. 270b16*ff.* See also fn. 9.

To sum up, it seems that the fact that the Aristotelian heavenly bodies are composed of aether entails that they are 'everlasting/eternal entities' (ἀΐδια).[14] They are, we are told, the kind of entities whose very nature is to move in a circle. Furthermore, Aristotle claims that there is no opposite to motion in a circle. Hence, he seems to reason, if it is the essence of a heavenly body to move in a circle, and given that there is no opposite to this kind of essence, it follows that a heavenly body cannot ever go out of existence.

Now that we have settled the case of the heavenly bodies, it is time to move on to the case of the 'perishables' (φθαρτά). There is ample textual evidence which shows that Aristotle applies this title to the entities in the sublunary realm. That is, he seems to use it for the four sublunary elements and the entities composed out of them;

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[13] See *GC* B. 11. 337b10*ff*. In this stretch of text, Aristotle tells us, among other things, that: '... that which is unqualifiedly necessary (ἐξ ἀνάγκης ἁπλῶς) exists in movement and generation in a circle' (338a14-15). It is clear from the context of the discussion in *GC* B. 11 that what the Stagirite is trying to say here is this. Movement in a circle, *viz.* the natural motion of the heavenly bodies, is said to be unqualifiedly necessary because it is everlasting; *viz.* it cannot ever come to an end (338a18*ff*). Coming to be in a circle is also said to be unqualifiedly necessary. Aristotle contends that this is so because coming to be in a circle, *viz.* the cycle of the generation and destruction of the species in the sublunary realm, cannot ever come to an end either (338b*ff*). These two points can be also established through the material in *Met.* Δ. 5 where Aristotle tells us that: the primary sense of necessity is 'unqualified necessity' (ἁπλοῦν); *viz.* necessity in the sense that an entity *x* cannot ever 'admit of more states than one' (1015b11-13).

[14] See, for example, *Nicomachean Ethics* Z. 3. 1139b24*ff*, *Met.* Δ. 5. 1015b14-15, Θ. 8. 1050b6*ff*, and *DC* Γ. 1. 298a24*ff*.

e.g. the various animals and plants.[15] What we need to do here, though, is go beyond determining the membership of this class. As with the case of the ἀΐδια, we have to identify the kind of nature Aristotle ascribes to these entities.

The first clue we need to reconstruct Aristotle's views on the nature of the perishables is found in *Met.* Θ. 8. 1050b22-28. In this piece of text the Stagirite tells us that:

> (1) A perishable $x$ is the kind of substance which is matter and capacity (1050b27).
>
> (2) A perishable $x$, on account of its elemental make up, has a 'capacity for opposites'/δύναμιν τῆς ἀντιφάσεως (1050b24*ff*).

It seems, then, that what Aristotle is trying to say in our passage is roughly this. The matter out of which a perishable $x$ is composed, *viz.* one (or more) of the four sublunary elements, endows it with a capacity. The kind of capacity possessed by a perishable $x$, however, is radically different from that possessed by an everlasting entity. Aristotle's claim is that the very make up of a sublunary entity $x$, *viz.* the fact that it is composed of one or more of the sublunary elements, endows it with a capacity which is not ever-active, and which is for contrary ends. That is to say, $x$ has a capacity which is not permanently actualized, and which is directed towards two opposite ends; e.g. $\phi$-ing and not-$\phi$-ing.[16,17]

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[15] See, for instance, *DC* Γ. 1, and *GC* Β. 9. 335a33*ff.*

[16] Aristotle does not mean to say that a perishable $x$ has a double capacity in the sense that it can actualize both ends at the same time. Rather, he means that $x$ has the capacity to $\phi$ and not-$\phi$, in the sense that it can actualize both of them but at different times. See also the discussion in chapter 3 (part **III**), and chapter 4 (part **II**).

[17] As we will soon see, the intended claim in *Met.* Θ. 8. 1050b22-28 is that a perishable $x$ has a very specific kind of double capacity; namely, a double *passive* capacity.

What makes all this pertinent to our present discussion, are some of the comments Aristotle makes in *Met*. E. 2:

> **[1026b27]** Since among things which are, some are always in the same **[28]** state and are of necessity (ἐξ ἀνάγκης) - nor necessity in the sense of compulsion **[29]** but that which means the impossibility of being otherwise -, and some **[30]** are not of necessity nor always, but for the most part (ὡς ἐπὶ τὸ πολύ), this **[31]** is the principle and this the cause of the accidental (τὸ συμβεβηκός); for that **[32]** which is neither always nor for the most part, we call **[33]** accidental ... **[1027a8]** Since not all things **[9]** are or come to be of necessity and always, but the **[10]** majority of things are for the most part, the accidental must **[11]** exist ... . **[12]** If not, **[13]** everything will be of necessity. The matter, therefore, which is **[14]** capable of being otherwise than as it for the most part is, is the cause of **[15]** the accidental (ὥστε ἡ ὕλη ἔσται αἰτία ἡ ἐνδεχομένη παρὰ τὸ ὡς ἐπὶ τὸ πολὺ ἄλλως τοῦ συμβεβηκότος).[18]

As was noted in chapters 1 and 2, *Met*. E. 2 is one of the many places where the Stagirite presents his threefold distinction between: (a) things which are or come to be of necessity, (b) things which come to be for the most part, and (c) things which come to be accidentally. There is little doubt that the 'things which are always in the same state and are of necessity' is meant to refer to the heavenly bodies.[19,20] The question that remains to be addressed, though, is how the other two categories, *viz*. (b) and (c), are related to what Aristotle has to say about the perishables in *Met*. Θ. 8.

The answer to the question just posed, I would like to submit, is to be found in the combined evidence from *Met*. E. 2. 1027a8-15 and *Met*. Θ. 8. 1050b24-28. As we have seen, Aristotle divides the entities in his universe into two exhaustive and mutually exclusively categories; namely, the eternal entities which are removed from the sublunary realm, and the perishables which reside in the sublunary realm.[21] What should also be clear is that the immutability of the eternal bodies indicates that it must be the case that those events which occur for the most part or accidentally involve the entities in the sublunary realm.[22] And the suggestion I would like to put forward here is that in the two passages noted above, *viz*. 1027a8-15 and 1050b24-28, the Stagirite explains why this is so. That is, he explains why the events which involve sublunary entities do not happen of necessity, but either for the most part or accidentally.

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[18] Ross' translation; see Barnes (ed.), 1985: 1621-1622.

[19] This is aptly demonstrated by Aristotle's comment that necessity here is to be understood as 'impossible to be in a state other than the present one' (1026b28-29). See also fns 13 and 22.

[20] For the meaning of the expression 'things ... [which] come to be of necessity and always' at 1027a9, see fn. 13.

In *Met*. 1050b24-28, Aristotle states that the perishables, like the eternals, have capacities. Unlike an eternal, though, a perishable *x* is such that it has a capacity which is not permanently actualized, *and* which is for opposite ends.[23] The next thing we need to note at this point is that in *Met*. E. 2. 1027a13-15 Aristotle states that: 'The matter ... which is capable of being otherwise than as it for the most part is, is the cause of the accidental'. What I would like to submit is that these lines are the ones which clinch the connection between the two texts at hand. The Stagirite's view, as we have seen, is that the perishables are composed of the four sublunary elements. And as he points out in *Met*. 1050b24*ff*, a perishable *x*, *on account of its elemental make up*, is such that it has a double capacity. Now,

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[21] This is essentially *one* of the points Aristotle is trying to make in *Met*. Θ. 8. 1050b22-28 and *Met*. E. 2. 1026b27-1027a8. For an even clearer statement of this same point, see *DC* Γ. 1. 298a24-b12.

[22] As was explained in chapter 2 part **VI**, an eternal body such as the sun cannot ever fail to move in a circle. Hence, the sun's moving in a circle tomorrow cannot be classified as a for the most part or an accidental event. It is an event which is now fixed.

[23] See fn. 16.

Aristotle's claim in *Met*. E. 2 is that matter which is capable of being otherwise than it for the most part is is the cause of the accidental. It seems to me that the most plausible way to construe this last comment is this. Take this cloak here which is made up of sublunary matter. Due to its elemental make up, this cloak is endowed with a double *passive* capacity. That is, it has the capacity to wear out or not (wear out) -- in the sense that it may be burnt up instead.[24] For the most part, cloaks tend to actualize their capacity to wear out. That is to say, most cloaks do eventually wear out. Nevertheless, on account of the fact that a cloak has a double passive capacity, *viz*. the capacity to wear out or not to wear out, it is certainly true to say that this cloak here may fail to do what most of its kind end up doing; *viz*. actualize their capacity to wear out. In other words, the double passive capacity the cloak possesses, because of its elemental make up, makes it possible for the actualization of the capacity to wear out to be impeded. For instance, Socrates' brand new cloak may fail to actualize its capacity to wear out, because a vengeful Xanthippe has just decided to burn it. When such an interference *does* occur, Aristotle thinks, what we get is an accidental event.

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[24] As was noted in chapter 3 (part **III**), Aristotle maintains that: (a) there are some sublunary entities which have double *active* capacities; *viz*. the various rational agents in the sublunary realm, and (b) there are also some sublunary entities which have only single-end *active* capacities; for instance, fire has the single-end capacity to heat something. What we need to note here, though, is that there is textual evidence which confirms that the Stagirite holds that the sublunary entities have also double *passive* capacities. For an unequivocal statements of this claim, see *DI*. 13. 22b29*ff*. And, what is even more important to note for our purposes, is that the textual evidence shows that Aristotle's view is that what endows a perishable with the double passive capacity to $\phi$ and not-$\phi$ is its elemental make up. That is, he acknowledges that a perishable $x$ has the double passive capacity to $\phi$ and not-$\phi$ because it is made of sublunary matter; see *DC* A. 12. 283a29-b6.

To spell things out a bit, the proposal I am trying to put forward here is this. The entities in the sublunary realm have certain double *passive* capacities bestowed upon them by their elemental make up. Take, for instance, the sublunary entity *x*. According to the Stagirite, it has the passive capacity to ϕ and not-ϕ. Furthermore, Aristotle seems to think that *x* 's future is not predetermined. He concedes that *x* may belong to a certain species of things *K* which in most cases tend to actualize their capacity to ϕ. At the same time, though, he urges us to note that the fact that *x* has also the capacity to not-ϕ entails that it is possible that the actualization of *x*'s capacity to ϕ may be impeded. Hence, *x* may ultimately end up not-ϕ-ing. And the cases where this happens are the cases where we say that something happens neither of necessity, nor for the most part, but accidentally.

The question that remains to be answered, of course, is why Aristotle thinks that it is clear to his audience that the sublunary realm is governed by the kind of indeterminism described above. Why does he expect his audience to readily accept that: the sublunary entities of kind *K* have the passive capacity to ϕ and not-ϕ; for the most part, the entities of kind *K* end up exercising their capacity to ϕ; nevertheless, an entity *x* of kind *K* may have the exercise of its capacity to ϕ impeded; hence, it is perfectly possible that *x* may end up not-ϕ-ing. I think that the answer is to be found in the wording Aristotle uses in some of the relevant texts. In *DC* Λ.

3, he tells us that one way we may confirm the claim that the heavenly bodies are immutable is *via* sensory experience. As he puts it, nobody has ever observed any kind of change in the realm of the heavenly bodies (*DC* A. 3. 270b11-16). What is most interesting to note, though, is that he appeals to the evidence of the senses to establish the other half of his cosmological theory; *viz.* the thesis that things in the sublunary realm happen not of necessity, but either for the most part or accidentally. As was noted in chapter 2, in *DI* 9 he states that:

> **[19a7]** ... we see (ὁρῶμεν) that what will be **[8]** has an origin both in deliberation and in action, **[9]** and that, in general, in things that are not ever-active there is the capacity **[10]** of being and not being; here both possibilities are open, both being **[11]** and not being, and, consequently, both coming to be and not coming to be. **[12]** Many things are obviously like this (καὶ πολλὰ ἡμῖν δῆλα ἐστιν οὕτως ἔχοντα). For example, this **[13]** this cloak is capable of being cut up, and yet it will not be cut up but **[14]** it will wear out first.

It seems to me, that what we get here is clear evidence in support of the claim that Aristotle expects his audience to readily agree with him on one crucial point: The things which are not ever-active, *viz.* the entities in the sublunary realm, have double passive capacities. And as a result of this the future of such entities is open. That is, a sublunary entity $x$ may end up exercising either end of its dual capacity. How do we know that this much is true? The Stagirite's phraseology, *viz.* ὁρῶμεν at line 19a7 and πολλὰ ... δῆλα ἐστιν οὕτως ἔχοντα at 19a12, suggests that he expects his audience to simply see that this is the case. In other words, he expects his audience to simply acknowledge the following. The sensory evidence confirms that, for instance, it is not now determined that this cloak will wear out. Experience shows that most cloaks *do* get to exercise their capacity to wear out. Nevertheless, there are observed cases where the exercise of a cloak's capacity to wear out may be impeded.

To sum up, it seems that Aristotle has a certain picture of the entities in the world. First, there are the entities in the realm of the heaven. These are composed of aether. Aether is an element that has only a single capacity, *viz.* the capacity of motion in a circle, which is actualized sempiternally. As a result, the heavenly bodies cannot ever be destroyed, and the events which involve them are now determined. For example, it is now determined that at any time in the future the sun will be moving in a circle. And second, there are the perishables which, on account of the fact that they are composed of sublunary elements, have double passive capacities. When it comes to perishables of kind *K*, it is usually the case that they end up exercising their capacity to $\phi$. This is confirmed by experience. Experience, however, also confirms that the actualization of *x*'s capacity to $\phi$ may be impeded, and that it may end up not-$\phi$-ing. These are the cases, Aristotle tells us, where we get an accidental event. In short, it seems that his view is that sensory experience indicates that the future of the perishables is not fixed. Although more often than not a perishable *x* will end up $\phi$-ing, it is still possible for it have the actualization of this capacity interfered with. And what we get in *Met*. E. 2 and *Met*. Θ. 8 is the theoretical background to the observable facts. That is, we are told that what makes contingency possible in the realm of the perishables is the fact that these entities are made up of matter which endows them with double passive capacities. On the other hand, the immutability of the eternals is explained by the fact that they are composed of aether.

Given the discussion in the last few pages, we can now appreciate Aristotle's stance against the causal determinist and the logical fatalist. In *Met.* E. 3, he tells us that the causal determinist's thesis, *viz.* the thesis that every future event ***En*** is now causally determined, entails that every causal chain ***C*** is exclusively composed of non-accidental causes. It is clear from the overall discussion in *Met.* E. 3, however, that his main aim is not to discredit the causal determinist's conclusion. The Stagirite begins with the assumption that it is evident that not all events are now (causally) determined, and then he proceeds to do two things. First, he claims that given the evident problem with the causal determinist's thesis, it follows that there are causes which are accidental events. Then, he goes on to explain how such a cause fits into a continuous causal chain.[25] In light of the material discussed above, we can now see why the Stagirite begins with the assumption ,that his opponent's view is clearly untenable. As was just explained, he takes it that everyone can just see that there are certain events in nature, namely the ones that involve the individuals that populate the sublunary realm, which happen not of necessity, but either for the most part or accidentally.

The fatalist of *DI.* 9 launches his argument from the premise that ***RCP*** applies to future singulars unqualifiedly. As was noted in chapter 2. Aristotle acknowledges that to justify this premise his opponent may make appeal to the assumption that one of the two future events described by '*Fp*' and '~*Fp*' is now causally determined. For whatever reason(s), though, the Stagirite keeps this point mute. Instead, he sets up his response as if it were directed against an argument which takes its start from the assumption that ***RCP*** applies to future singulars unqualifiedly.[26] And once more, Aristotle makes short shrift of his necessitarian opponent's view. He tells us that the fatalist's claim that the future of every entity is now fixed is evidently absurd, and he proceeds to take care of other matters. That is, he proceeds to explain that given the (evident) untenability of the fatalist conclusion, it follows that ***RCP*** *does* apply to future singulars but not unqualifiedly.[27] This time around, however, he explicitly tells us why the fatalist's conclusion ought to be readily dismissed. The evidence from *DI* 19a7-12 shows one thing. He expects his audiences to acknowledge that sensory experience demonstrates that among the entities which are not ever-active, *viz*. the perishables, things happen not of necessity, but either for the most part or accidentally.

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[25] See the discussion in chapter 1, part **IV**.

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[26] See the discussion in chapter 2, part **V**. Why does Aristotle not pursue the point that to justify the premise that ***RCP*** applies to future statements unqualifiedly, one may appeal to some present/past causal considerations? One answer to this question is that he expects his audiences to be familiar with (some) lecture covering the material in *Met*. E. 3 -- where he shows that causal determinism is untenable. Another explanation, is that he is not really interested in fully exposing his opponent's position. His real interest is in showing us how truth values are to be apportioned among future contradictories. This much, of course, is pure conjecture. As was noted in chapter 2, what is important to keep in mind is this: in *DI*. 9 we get an argument which is aimed against an opponent's position which is presented as taking its start from the assumption that ***RCP*** applies to future statements unqualifiedly, without any further consideration as to what may justify this assumption.

[27] See the discussion in chapter 2, latter half of part **VI**.

In the final analysis, it appears that what causes Aristotle to readily dismiss the claims made by his necessitarian opponents in *Met.* E. 3 and *DI.* 9 is his conception of the universe. As we have seen, he takes it that determinism reigns supreme in the realm of things eternal. At the same time, however, he takes it to be evident, from sensory experience, that the things in the sublunary realm are subject to indeterminism.

This brings us to the material in *Met.* Θ. 3. In this third text Aristotle is not concerned with the refutation of a necessitarian thesis, or a claim entailed by such a thesis. Rather, in this text he seems to be on the defensive from an attack launched by the necessitarians he confronts in *Met.* E. 3.[28] As he tells us, there are some sublunary entities, the various rational agents, which have not only *passive* double capacities but also double *active* capacities. That is, a rational agent such as Callias, Aristotle tells us, has the double active capacity to heal or to harm. And, provided that the passive subject is near and that nothing interferes, Callias has the freedom to choose his course of action. What concerns him in *Met.* Θ. 3 is the Megarian counter that rational agents do not have double (active) capacities at all. As we have seen, he shows this objection to be absurd. In short, it seems that in *Met.* Θ. 3 he is still concerned with entities in the sublunary realm; namely, rational agents. His overall thesis in this text is that: (a) despite the Megarian objections, it appears that rational agents *do* have double active capacities, and (b) given the right kind of conditions, a rational agent has the freedom to choose between the two courses of action available.

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[28] See the discussion in chapter 3, part **III**.

The overall picture we get here, then, is that of Aristotle as an indeterminist. His view is that the entities in the sublunary realm have double passive capacities, as a result of their make up, and that this fact is what explains our observations. That is, it explains why we observe that things in this realm happen not always and of necessity, but rather for the most part or accidentally. Furthermore, he contends that some of the sublunary entities, *viz.* the various rational agents, have also double active capacities. And the fact that a rational agent has a double active capacity is what explains his/her freedom of action.

What remains to be done, of course, is to see how *DC* A. 12 fits into this scheme of things. In this fourth text, Aristotle constructs an argument, albeit a fallacious one, whose aim is to prove that (***T2*** =) 'things which are everlasting cannot have the capacity to be destroyed'. In chapter 4, we saw that: (a) the line of reasoning in *DC* A. 12. 281a28-b2 may be extended to show that Aristotle is also committed to another version of the *Principle of Plenitude*, *viz.* ***T1*** = 'that which never is, is impossible', and (b) there is textual evidence which may be construed as showing that Aristotle can be forced to accept that ***T1*** is applicable to things perishable. The problem, of course, is that this variant of the *Principle of Plenitude* is the contrapositive of ***T*** = 'If something is possible at $t_i$, then it is actual at $t_j$ for at least one time $t_j \geq t_i$'. And, Aristotle *explicitly* rejects the claim that ***T*** is applicable to the perishables, because such a claim introduces determinism in the sublunary realm.[29] Obviously, the material from *DC* A. 12 causes some strain in Aristotle's efforts to maintain that the sublunary realm is subject to indeterminism. The bottom line, however, is that the Stagirite has all he needs to show that he is committed to indeterminism. As we have seen, he has a theory, whatever its merits may be, which has it that things in the sublunary realm happen either for the most part or accidentally. So, as was explained in chapter 4, it is natural to assume that he would protest that the argument constructed on the basis of the material in *DC*. A. 12, can only show that if an entity in the sublunary realm is such that it is necessary for it to never ϕ, then it does not have the capacity to ϕ. The theory of double passive capacities, though, tells us that a sublunary entity's future is not fixed until the end of its life. Thus, I suspect he would claim, there is no merit to the suggestion that ***T*1** is applicable to the perishables. As was indicated in chapter 4, if Aristotle were to become aware of this much, then he would have also seen the problem that plagues the argument for ***T*2**. And hopefully, he would have rejected that argument as well. All this, however, as was noted in chapter 4, is in the realm of conjectures. What does matter to note for our present purposes is that Aristotle is committed to a theory which has it that things in the sublunary realm happen not of necessity but either for the most part or accidentally. And given that this much is right, then we can safely assume that, whatever can be made out of the material in *DC* A. 12, the bottom line is that: (a) it only shows that

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[29] See the discussion in chapter 2, part **VI**, and chapter 4, part **III**.

Aristotle's undermining of his own drive to silence the necessitarians is unintentional, and (b) it is best dismissed as a moment of mental lapse on behalf of the philosopher.

## III. *Conclusion*:

To reiterate the conclusion stated above, it seems that the evidence from *Met*. E. 3, *DI*. 9, and *Met*. Θ. 3, shows that Aristotle is firmly committed to some form of indeterminism in nature. To begin with, he is committed to the thesis that: (a) things in the heavenly realm are of necessity, *viz*. determinism reigns supreme in this realm, but (b) things in the sublunary realm do not happen of necessity; they happen either for the most part or accidentally. And what underlies claims (a) and (b), we are told, are certain facts concerning the elemental make up of the entities in the two realms. Aether makes the heavenly bodies immutable and everlasting, whereas the sublunary elements endow the perishables with double passive capacities, which entail indeterminism. Finally, in *Met*. Θ. 3 Aristotle argues for the closely related thesis that some of the sublunary entities, the various rational agents, have also double active capacities; *viz*. a thesis which seems to entail freedom of action.

In short, it seems that the very basis of Aristotle's indeterminism is his conception of the nature of the entities in his cosmos. What the merits of his argument for this cosmological picture are is a story I do not intend to pursue here. What I think it is most important to take out of the texts examined here is this. It is clear enough that Aristotle faced arguments which are aimed to establish necessitarianism. In fact, what we get in *Met*. E. 3 and *DI*. 9 are arguments which closely resemble the positions we now label as 'causal determinism' and 'logical fatalism'. And in *Met*. Θ. 3 we get a theory whose aim is to establish the possibility of free will. Furthermore, it may be true that in *DC* A. 12 Aristotle inadvertently undermines his own efforts to silence the determinists. The bottom line, however, is that the evidence in our texts shows one thing. Aristotle's non-chalant approach to his necessitarian opponents' views indicates that he does not take them very seriously. He seems to be firmly convinced that his cosmological theory is clearly adequate to silence them. And given the kinds of opponents he is faced with, it will have to be conceded that his arguments are adequate. Those who expect to look to the Aristotelian *corpus* for material that may set afire the stage in modern discussions of modality and determinism, I am afraid are bound to be disappointed. But for better or worse, this is the case with most of the history of ancient philosophy.

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